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# mobility
## *for the next generation*

Transportation 2030 Plan for the San Francisco Bay Area

FINAL February 2005

TRANSPORTATION 2030

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# mobility
## *for the next generation*

**Transportation 2030 Plan for the San Francisco Bay Area**

FINAL **February 2005**

TRANSPORTATION 2030

vision

# a vision for the future

Today, the Bay Area's surface transportation system is poorly maintained, seriously overcrowded at peak hours and woefully underfunded. These conditions have been decades in the making, and cannot be reversed overnight. But they *can* be changed.

This Transportation 2030 Plan charts a 25-year course for transforming the Bay Area transportation system — and fulfilling a vision in which potholes on the streets, roads and highways are rare exceptions and not common occurrences; in which the region's bridges prove mightier than the strongest earthquake; in which all the doors on all the buses open and close; in which train station escalators and ticket machines are no longer adorned with "out of order" signs; and in which broken sidewalks no longer bedevil pedestrians, wheelchairs or baby strollers. By 2030, an electronic fare card will allow millions of passengers each day to ride any bus, train, ferry or cable car in the Bay Area; electronic toll collection will automate hundreds of thousands of transactions daily and bring some relief to traffic-choked toll plazas; and real-time information about conditions on every highway and transit route in the region should be available on demand via whatever portable electronic device we'll carry around in the future.

**"MOBILITY FOR THE NEXT GENERATION DEPENDS ON THE BOLD STEPS WE TAKE TODAY."**

The Transportation 2030 vision also embraces carefully selected additions to the Bay Area transportation system. These include extending BART to San Jose and Santa Clara; unclogging some of the region's most notorious highway bottlenecks (including the Cordelia Junction, Novato Narrows and Caldecott Tunnel); and completing a network of high-occupancy-vehicle lanes to whisk express buses, carpoolers and even toll-paying solo drivers throughout the region. (Thanks to legislation signed by Gov. Schwarzenegger in 2004, solo drivers will soon be able to pay their way into carpool lanes in Alameda and Santa Clara counties, an important test bed for the congestion-busting potential of this road-pricing concept.)

All these things are possible. But only with a frank recognition of the hard work required, a willingness to experiment and innovate, and plenty of additional dollars. The Transportation 2030 Plan makes a significant down payment toward restoring the transportation infrastructure we've inherited, coaxing maximum safety and productivity from our existing system and endowing the greatest possible legacy for future generations. But additional installments — of both political and financial capital — will be required to fully realize the Transportation 2030 vision.

Another challenge will be determining where close to two million additional people will live and where more than a million new jobs will be located. In preparing the Transportation 2030 Plan, MTC found strong public support for better connecting transportation and land-use decisions, developing more convenient

> **"THE FIRST TASK IS TO REPAIR AND RESTORE THE BAY AREA'S EXISTING TRANSPORTATION ASSETS."**

transportation options, and pursuing greater regional cooperation on issues surrounding the location of new development. The bottom line is that the Bay Area must accommodate more of its growth in existing urban and suburban areas, which are already well served by the region's road and public transit networks.

The Transportation 2030 Plan proposes three broad approaches to enhance mobility and improve access to schools, jobs, medical services and other vital destinations for Bay Area residents. These three strategies can be summed up in six words: **adequate maintenance, system efficiency** and **strategic expansion.**

## Adequate Maintenance

The first task is to repair and restore the Bay Area's existing transportation assets, some of which date back to the beginnings of the region's urbanization. This rich legacy — ranging from the state highway system to major rail networks to the local street grid — has fallen into serious disrepair. We are proposing to devote 80 percent of the plan's budget to operate and maintain the existing transportation system. Yet despite this heavy "fix it first" emphasis, it would take an additional $17 billion just to rehabilitate our public transit, highway and roadway networks to top condition. This repair shortfall far exceeds all the revenue that we expect will be available for new expansion projects over the next 25 years. In other words, we could virtually shut down the Bay Area's construction program for over two decades and still lack sufficient funds to adequately maintain the facilities that exist today.

The gasoline tax has been the traditional source of funding for filling potholes and replacing worn-out buses. It's no wonder that we have fallen behind in these tasks, since neither the federal nor state gas tax rate has been increased in over a decade. Indeed, the purchasing power of the combined federal and state tax (currently 36 cents per gallon) has declined by 25 percent since 1990. Sober assessment of the political landscape, however, shows that much higher gas taxes simply are not on the horizon. Not only has more than a decade passed since legislators last raised fuel taxes, but attempts to adjust them in the 2004 congressional and state legislative sessions ended in failure, and persistently high pump prices for gasoline may foreclose debate about raising gas taxes for at least the next several years. This increasingly will force local governments to meet the transportation funding responsibilities abdicated by Congress and the Legislature. Therefore, it is imperative that Bay Area counties seeking to extend or enact local sales tax measures for transportation include a healthy set-aside for ongoing maintenance activities.

A renewed financial commitment to infrastructure repair should *not* come without strings attached. Cities that receive additional local road funding should meet "maintenance of effort" standards to ensure that they don't shift existing funding out of local roads to other municipal programs. Transit operators that receive repair funds should likewise be required to adjust passenger fares and other local revenues to keep pace with inflation so their repair backlogs can be stabilized and reduced. No public agency should receive additional funds unless it agrees to support and implement measures to improve the efficiency of the transportation network (described in the next section of this chapter). New funding is urgently needed for basic repair of our roads, bridges and transit systems. But so too is a new focus on accountability and transparency in how those funds are spent.

## System Efficiency

The traffic congestion that plagues the Bay Area and most major metropolitan areas throughout the United States has two principal causes. First, at many well-known bottlenecks like the Bay Bridge toll plaza and freeway interchanges, there are simply too many cars trying to squeeze through too small a space at the same time. Demand exceeds capacity, and delays result. Second, up to 50 percent of traffic congestion is caused not by lack of capacity, but by accidents, stalls and other on-road incidents that frequently tie up traffic for hours each day. By improving the response time in dealing with these traffic mishaps — and better yet, avoiding some of them altogether — we can make great progress in increasing safety and reducing delays.

Take a typical freeway collision: As soon as the accident occurs, traffic slows. The longer the disabled cars sit on the freeway, the farther the backup stretches. Before long, even emergency vehicles have a hard time reaching the scene to deal with any injuries and clear the lanes. Now imagine if the accident had been detected seconds after it occurred by roadside sensors or cameras overhead. Imagine if a roving tow truck had been immediately dispatched from a nearby location to clear the scene. And imagine if changeable message signs and broadcasts on the 511 telephone system had alerted travelers to consider an alternate route around the budding delay.

This is hardly the stuff of science fiction. All these technologies exist today on portions of the Bay Area freeway system. But several steps to better system efficiency remain. We must complete instrumentation of the freeway network so Caltrans and the California Highway Patrol (CHP) can direct motorist assistance where it's needed most. We must expand the Freeway Service Patrol so more tow trucks are working to aid stranded motorists. And we must build out the 511 phone and Web traveler information systems so drivers and transit patrons can make smarter travel choices based on real-time information. The Transportation 2030 Plan brings us closer to these goals.

GEORGE HAMER

> **"UP TO 50 PERCENT OF TRAFFIC CONGESTION IS CAUSED NOT BY LACK OF CAPACITY, BUT BY ACCIDENTS, STALLS AND OTHER ON-ROAD INCIDENTS."**

Techniques such as these also can help us cope with recurring traffic congestion during rush hours. One strategy to reduce freeway delay is to meter entering vehicles with traffic lights at freeway on-ramps. These ramp meters are ubiquitous in Southern California and quite common in our own Silicon Valley. Yet, fear of possible "spillover" traffic on adjacent city streets has stymied wider deployment in the Bay Area. MTC will work with Caltrans, congestion management agencies and the affected local communities to optimize flow and minimize delay on freeways and local streets. Another impediment to congestion relief is poor communication among emergency responders to major highway accidents, where improved coordination between the CHP, local police and fire departments, and even the coroner's office, can speed medical assistance and the reopening of affected traffic lanes. MTC will seek solutions here too, if necessary with a change to state law.

Fortunately, many of these "intelligent transportation" strategies come at relatively low cost — especially when compared to major road or transit expansion projects. So, while new funding is needed, it is not the major obstacle to full-scale implementation. The bigger challenge is overcoming the institutional tangle of multiple owners

and operators of the transportation system so their unifying mission becomes maximizing the safety and effectiveness of the system as a whole — not just the piece they happen to own. This kind of collective political leadership has been lacking up to now. The Bay Area transportation community must rededicate itself to an enterprise of partnership and collaboration for our common constituents.

But collaboration only goes so far. It's difficult to say what would be an "ideal" number of public transit operators for a region the size of the Bay Area, but the existence of 26 separate agencies is not the right answer. In addition to promoting better connections between these various systems — such as with the TransLink® universal fare card — the time has come to seriously evaluate the consolidation of these two dozen operators into a smaller and more manageable number of agencies. This would reduce administrative redundancy and duplicative expense as well as respond to the public's call for a more seamless transit system. Following a thorough review of costs and benefits, Napa County merged all six of its municipal transit operations under a single agency, and several East Bay suburban bus agencies are studying efficiencies that might be generated through combining parts of their operations. Other counties that are now served by several transit agencies, such as Solano and Sonoma counties, should proceed in this direction.

## Strategic Expansion

It is straightforward enough to say that any transportation plan should seek to maintain what we've already built and operate that infrastructure as efficiently as possible. These are fairly uncontroversial objectives — although much work lies ahead to accomplish them. It's another thing altogether to strive for consensus over how, where and under what conditions we should expand the Bay Area's road, transit and bicycle/pedestrian networks. Ever since the "freeway revolt" in the 1960s, the region has been engaged in a long-running debate about expanding transportation capacity, with ever-changing factions vying for dominance. What began as a highway vs. transit fight has degenerated into combat over rail vs. bus transit, or even build something vs. build nothing squabbles, for fear that any capacity expansion will inexorably lead to more growth and congestion. After nearly half a century of angry words, it's time to break free of this modal conflict and try to establish a common ground for moving forward.

Let's begin with a few facts. First, the era of major freeway construction — the building of the Interstate system — is over. During the next two decades, the Bay Area is expected to spend less on new highway projects than any other large urban area in the country (only 4 percent of total spending). For local transit advocates to pretend otherwise — as many persist in claiming — is to ignore the truth. This is not to say that further high-occupancy-vehicle (HOV) lane construction, new auxiliary lanes to reduce merging conflicts and freeway interchange improvements are unwarranted. Many of these types of projects are needed and will be built. But, on a regional scale, they are mostly tinkering at the margins of the mainline freeway capacity that exists today.

Second, transit expansion is no panacea either. In many parts of our region, rail service will never make economic or transportation sense — even with substantial increases in housing density over present trends. Rapid or express bus service will be a much more cost-effective alternative in these low-density areas, but there are limits to the appropriateness of bus transit as well. Every new bus requires a driver and fuel, and creates a long-term claim on operating funds to subsidize the service. The greatest wasted "mass transit" resource in our region remains the empty seats in

most commuters' automobiles. If more workers throughout the region followed the model of casual carpooling pioneered in the Bay Bridge corridor, we would have a powerful new tool to reduce traffic congestion *at no taxpayer cost.*

Finally, expansion of any travel mode occurs in multiple contexts: physical, social and financial, to name a few. It is within these contexts, perhaps, that a new consensus on capacity expansion can be forged. MTC, in adopting its Resolution 3434 rail and bus expansion program in 2001, acknowledged the physical limits of building additional freeway lanes in several congested corridors and opted to provide a rail or bus transit alternative to augment capacity. The Transportation 2030 Plan continues this $11.8 billion commitment in these corridors.

Since the adoption of Resolution 3434, MTC and four other regional agencies have adopted a Smart Growth Strategy that promotes future residential and commercial development clustered around existing and planned transit hubs. Recognizing the development impact that rail transit investment can have on the physical environment, the Transportation 2030 Plan conditions Resolution 3434 discretionary fund allocations on local governments taking steps to implement the Smart Growth Vision through general plan amendments and zoning changes. This new approach both responds to the Bay Area's acute housing shortage and gets the most ridership "bang for the buck" out of these costly rail transit extensions.

**"THE TRANSPORTATION 2030 PLAN BREAKS NEW GROUND BY SETTING ASIDE $200 MILLION IN REGIONAL FUNDS FOR FILLING GAPS IN THE BICYCLE PLAN NETWORK AND IMPROVING PEDESTRIAN FACILITIES."**

In the social context, the Transportation 2030 Plan expands mobility options for traditionally underserved communities: elderly, disabled and low-income residents with limited access to an automobile; and bicyclists and pedestrians. There is a clear gap in personal mobility based on income. People with disabilities face many travel obstacles. And given the "graying" of the Bay Area's population over the next 25 years, the needs of elderly travelers are likely to grow and command our attention every bit as much as headline-grabbing traffic congestion. After all, commuting to work will account for only 27 percent of all trips in the Bay Area in 2030.

The "lifeline" mobility needs of low-income travelers can in some cases be met with improvements to fixed-route transit service, in other cases by demand-responsive paratransit, and in still others by car-sharing or car purchase-assistance programs. Any of these solutions will require new funding, however, and the Transportation 2030 Plan makes a $216 million down payment to get the region started.

Bicycle and pedestrian travel are two of the oldest forms of transportation in America, yet it has been a struggle for these modes to be given equal access to our transportation facilities. Fortunately, the tide is turning. The three new transbay bridges just finished or under construction — Carquinez, Benicia-Martinez and the Bay Bridge east span — all include bicycle/pedestrian paths. And a study is under way to evaluate access options on the Richmond-San Rafael Bridge. Building on MTC's 2001 Regional Transportation Plan, which for the first time included a regional bicycle plan mapping out a network of major paths and trails, the Transportation 2030 Plan breaks new ground by setting aside $200 million in regional funds for filling gaps in the bicycle plan network and improving pedestrian facilities.

The financial context is what makes any type of expansion possible, and the constraints in this arena are formidable. They include legislative reluctance to raise the gas tax; the constitutional requirement for a two-thirds vote to approve local revenue measures; and the growing reliance on non-user fee revenue sources, such as general sales taxes, to finance transportation improvements. Another financial constraint can be found in the Transportation 2030 Plan itself. Federal law requires the plan to be based on a realistic forecast of future revenues, and the total cost of all projects in the plan cannot exceed this reasonable estimate. So while the Transportation 2030 Plan details a comprehensive vision for improving the performance of the Bay Area transportation network, current revenue projections are sufficient to realize only a part of this vision.

## Market Forces Are Key To Success

To go beyond financial constraints and fulfill the Transportation 2030 vision of adequate maintenance, more efficient operation and strategic expansion, the Bay Area must forge a regional consensus around a set of new revenue measures that can be realistically delivered in the next five to 10 years. An increase in the state gas tax is more than warranted after a decade of neglect, and California now ranks dead last among the 50 states in per-capita spending on highways. At the very least, the state gas tax should be indexed with inflation — as it is in 11 other states — to prevent the continued erosion of its purchasing power over time.

> "IN THE LONG RUN, BUILDING UNPRICED ROAD CAPACITY IN A GROWING REGION IS FIGHTING A LOSING BATTLE WITH TRAFFIC CONGESTION."

The local revenue dilemma is more complicated. County sales taxes have been the bulwark of the Bay Area's transportation expansion program in the face of state and federal inaction on the fuel tax. Yet by severing the connection between the road user and the system he or she uses, sales taxes, property taxes, general fund revenue and other non-user fee sources fail to send the proper price signal to the motorist to encourage wise use of the highway network. In the private economy, when a good becomes scarce, its price rises to balance supply and demand. A transportation system financed with non-user revenue lacks this critical balancing mechanism. In the long run, building unpriced road capacity in a growing region is fighting a losing battle with traffic congestion.

To reintroduce pricing signals into the transportation system, the Transportation 2030 Plan advocates development of a high-occupancy/toll (HOT) network that would convert the Bay Area's existing HOV lanes to HOT lanes. Carpools, vanpools and transit vehicles would continue to enjoy free passage in the HOT lanes, but other motorists could pay a fee to use them. The new toll revenue would be used to finance construction of HOT lanes where gaps exist in the network, and to operate additional transit and ride-share services for other corridor travelers. Because some commuters cannot afford to buy their way out of traffic gridlock, a portion of the HOT lane revenues could be used to subsidize transportation services for low-income travelers in the same corridor.

The transition from pump-based fuel taxes to direct road tolling will not be an easy one. But the time to begin that shift is now. The HOT network would offer improved mobility not only to those motorists willing to pay the fee, but also to transit and ridesharing patrons who would benefit from a more comprehensive diamond-lane system. HOT lanes already are successfully deployed in Orange and San Diego counties as well as in Houston and Minneapolis. As mentioned earlier, Alameda and Santa Clara counties recently secured state legislative approval to test the HOT lane concept in the next few years. MTC supports changes in state and federal law that would permit implementation of a comprehensive HOT network throughout the Bay Area.

A second potential source of new user-fee revenue is a regional gasoline tax — the only untapped discretionary revenue source within MTC's current authority to impose, subject to approval by the region's voters. Whether Bay Area voters are any more likely than the state Legislature to approve a gas tax is anybody's guess. But we'll never know unless we try. If the Legislature doesn't want to raise the current gasoline tax, it should at least change MTC's enabling statute to permit the Bay Area electorate to approve a regional gasoline fee with a *simple majority vote* — the standard successfully met in the passage of the Regional Measure 2 toll hike in March 2004.

As user charges, the regional gas fee and the HOT lane tolls have the potential not only to finance additional system *supply* but to influence *demand* for scarce roadway capacity. And as sources of regional discretionary revenues, they can be focused on elements of the Transportation 2030 investment agenda — such as system efficiency, livable communities and freight movement — that receive less attention in local tax revenue measures.

**"TOMORROW'S TRANSPORTATION CHALLENGES SHOULD PROVE NO MATCH FOR A COMMITTED CITIZENRY WITH THE DETERMINATION, THE VISION — AND THE COURAGE — TO OVERCOME THEM."**

The goals of the Transportation 2030 Plan emphasize a safe and well-maintained transportation system; a reliable commute; access to mobility for low-income, senior and disabled travelers; more livable communities; clean air for the region's residents; and efficient freight travel to ensure the Bay Area's economic competitiveness. At present, we are losing ground on most of these objectives. This is especially true in the area of goods movement, which too many residents still view as more of a nuisance to their personal travel than a necessity for the region's economic prosperity. Yet, better results are possible with new approaches, new technology and new resources.

Throughout its history, the Bay Area has recovered from calamitous earthquakes, floods and fires. We are a resilient region. Tomorrow's transportation challenges should prove no match for a committed citizenry with the determination, the vision — and the courage — to overcome them. Mobility for the next generation depends on the bold steps we take today.

CHRISTOPHER SPRINGMANN

MTC welcomes your comments on the Transportation 2030 Plan and encourages input from the Bay Area public at all times. To stay on top of MTC activities or to keep abreast of upcoming public meetings, you can visit our Web site at www.mtc.ca.gov. If you can't come to a meeting, you can call our Public Information Office at 510.464.7787, or send your comments via e-mail, fax or mail:

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# public outreach

## Public Provides Steady Direction for Transportation 2030

The Transportation 2030 Plan is the product of an unprecedented effort by MTC to involve people from all walks of life in the planning process. Transportation 2030 kicked off with a regional summit in June 2003 that drew an overflow crowd of nearly 500 to San Francisco's historic Palace Hotel. A sophisticated electronic voting system enabled summit attendees to immediately register their opinions on a range of transportation-related subjects, helping to spur debate and identify key issues.

The public involvement campaign also included:

- A telephone poll of 3,600 residents from throughout the Bay Area
- 34 public workshops, with a special focus on input from lower-income and minority communities
- A special multi-interest workshop with representatives from nine separate community-based organizations and each of MTC's three advisory committees
- County-oriented workshops and Web outreach hosted by the region's congestion management agencies
- Six focus groups with a cross-section of the public (including residents of all nine counties) to allow more in-depth discussion of the major choices and tradeoffs
- Three interactive, online Web surveys taken by over 1,900 visitors to the MTC Web site
- An invitation for members of the public to propose new transportation projects and programs directly to MTC — resulting in more than 40 new project ideas submitted for MTC's project performance evaluation
- Establishment of three task forces representing a variety of interest groups and charged with developing specific recommendations on improving access to mobility, bicycle/pedestrian travel and the transportation/land-use connection. The task forces met more than a dozen times at sites around the region.

### Different Audiences, Different Methods

Collaboration between MTC and community-based organizations attracted hundreds of residents to workshops held in San Francisco's Tenderloin and Bayview/Hunters Point neighborhoods, East San Jose, Milpitas, the Canal District of San Rafael, Concord's Monument Corridor, and Oakland's San Antonio and East Oakland neighborhoods. Workshop materials were printed in Spanish, Chinese and Vietnamese as well as English, and included response cards for a shorter, print version of the Budget Challenge featured on the MTC Web site. Translators were on hand at most meetings to facilitate participation by non-English-speaking residents, and some groups even provided on-site childcare to make it easier for parents to take part.

The nearly two dozen other public meetings on Transportation 2030 held by MTC during the fall of 2003 included workshops targeted toward business and labor interests, environmental advocates, Bay Area bicycle coalitions, tribal governments and the League of Women Voters of the Bay Area. Whether held in a low-income neighborhood or a high-tech business complex, nearly every workshop was attended by one or more MTC commissioners — allowing members of the public to talk directly with policymakers.

Following release of the *Draft Transportation 2030 Plan*, in November 2004, members of the public offered comments at workshops in San Jose, San Rafael and Oakland. The primary purpose of these workshops and a companion Web survey was to hear from the public about a series of investment strategies and proposed actions that could be taken in order to implement those strategies.

### Plan Reflects Community Input

The Transportation 2030 Plan reflects what MTC heard from the people of the Bay Area by including six new goals, a five-point platform for transportation and land-use integration, and a carefully balanced investment strategy. The plan increases investment for both road and transit shortfalls, sustains several important regional programs at levels established in the previous 2001 Regional Transportation Plan, and provides funding for the first time for a regional bicycle/pedestrian network and a Lifeline Program to meet the mobility needs of low-income residents.

MTC identified performance measures to gauge progress toward accomplishing a set of goals laid out in the Transportation 2030 Public Outreach Plan. Evaluation forms, available in English and three other languages, were handed out at the end of each public meeting, asking participants to evaluate the quality of outreach. The success of the Transportation 2030 outreach effort was recognized by the U.S. Department of Transportation, which in 2004 awarded MTC the "Transportation Planning Excellence Award for Public Involvement, Education and Outreach."

*MTC's Transportation 2030 outreach effort is further summarized in a series of supplementary reports.* *See pages 137–138 for more information.*

goals

# goals

safety
reliability
access
livable communities
clean air
efficient freight travel

**Through the Commission's public outreach, we have learned that Bay Area residents share a fairly consistent vision of how transportation could be improved in the future. This vision includes:**

- A desire to reduce trips of excessive distance and duration
- A better range of travel options in the future for those who now endure congestion and gridlock every day
- A transit system that is second to none in its upkeep and performance
- An easier and safer way to walk and bike around our communities
- Less reliance on the auto for various types of trips — to enhance community safety, ease environmental pressures and restore a healthful level of physical activity into people's lives
- Better access to jobs, medical centers, schools and grocery stores for those who do not own a car
- A sustainable transportation system the region can afford to operate over the long term and one that uses available public funds wisely
- A process that ensures major new transportation investments have been well scrutinized for cost-effectiveness

The Transportation 2030 goals respond to this vision and will be used to set direction for the future, measure progress and evaluate transportation programs and projects needed to maintain the system, improve system efficiency and strategically expand the system. Because the appetite for transportation improvements will likely outpace available resources to deal with the region's growth, some aspects of transportation performance may not improve in the future. Thus the measures of progress focus on areas where MTC does have some influence and can make a difference. MTC will use the measures of progress to monitor the degree to which its actions advance the Transportation 2030 goals. The measures of progress will be reported as part of a comprehensive review of Transportation 2030 policies during the next long-range plan update.

# safety

BILL LIEN - CATENAS

## A Safe and Well-Maintained System

Ensuring the safety of travelers is a priority for all government agencies engaged in transportation, whether the trip is by car, transit, bike or walking. Protecting transportation facilities from terrorism is also a new safety area for federal, state and local law enforcement officials and requires the cooperation of all major Bay Area transportation agencies.

The public also expects transportation facilities to be kept in a good state of repair, which requires diligence in attending to ongoing maintenance and rehabilitation needs. Future investments to improve transportation will not perform as intended if the rest of the system is poorly maintained. Maintaining the condition of the Bay Area's transportation infrastructure will enhance the region's economic growth potential and will help ensure the future viability of existing neighborhoods and downtowns.

### Objectives

- Reduce injuries and fatalities for all modes
- Be prepared for future transportation emergencies resulting from natural disasters and security threats
- Reduce long-term transportation repair costs through timely replacement of assets
- Save consumers repair costs due to poor road conditions

### Examples of Current Efforts

A number of regional initiatives aim to improve the safety and condition of the Bay Area transportation system, including: policies to close shortfalls for the timely replacement of worn-out transit vehicles and local street repair with flexible federal funding; efforts under way to complete seismic retrofit of Bay Area bridges; and programs offering technical assistance to cities and counties to improve roadway pavement conditions and improve bicycle and pedestrian safety. In addition, MTC and other Bay Area transportation agencies come together at least once a year to conduct emergency response exercises and training. (For more information on the Transportation 2030 Plan's approach to safety, see "Getting There Safe and Sound" on page 66.)

### Key Measures of Progress

- Number of injuries and fatalities at identified safety "hot spots"
- Pavement Condition Index (freeways and roads)
- Average age of transit fleet
- Progress in completing bridge seismic retrofit program

# 511 Puts Commuters In the Know

Harnessing the technological prowess for which the San Francisco Bay Area is famous, the region's 511 traveler information system provides up-to-the-minute, on-demand information for transit riders, drivers, carpoolers, vanpoolers and bicyclists. Part of a national rollout of 511 service, the Bay Area's system was launched in December 2002 through a partnership between MTC, the California Department of Transportation (Caltrans), the California Highway Patrol (CHP), dozens of the region's transit and paratransit operators, and RIDES for Bay Area Commuters Inc.

## On the Phone, On the Web

The Bay Area is the largest metropolitan area in the U.S. and the first in California, to activate a 511 service. Available free of charge both on the phone at 511 and on the Web at www.511.org, the breadth and quality of the data on the Bay Area system is unmatched anywhere in the country. Key features include:

- Real-time traffic conditions and incidents including point-to-point driving times on routes throughout the Bay Area
- Fare, schedule and trip planning information for dozens of rail, bus, ferry and paratransit service providers in the Bay Area and adjacent counties
- An online ridematching tool for carpools and vanpools as well as other information on carpooling, vanpooling and shuttle services
- Bicycling information including an online bicycle map tool
- Updates on construction projects and special events affecting traffic
- Other relevant transportation information, such as options for travel to airports and information about commuter incentives

The foundation of MTC's 511 phone service is a state-of-the-art, interactive, voice-response system which eliminates the need for callers to navigate their way through a push-button menu. The voice-recognition feature even allows "short cuts" so experienced callers can bypass menu options to directly access their choices. A little more than two years after its debut, the Bay Area system is now receiving 60,000 phone calls per week.

Tapping data from FasTrak™ electronic toll collection transponders and constantly updated information from Caltrans, the 511 Driving Times℠ feature tells motorists the current travel time between cities or major landmarks in the Bay Area, and if there are any incidents on the route. 511 Driving Times℠ is also available on the Web at www.511.org.

MTC's popular TakeTransit Trip Planner℠, which generates personalized, door-to-door trip itineraries with schedules, fares, time estimates, transfer instructions (including interagency transfers) and walking maps,

is the centerpiece of the 511 Transit Web page. The 511 Transit page also provides a comprehensive resource for Bay Area transit riders with route maps, fares, schedules, information on the Bay Area's popular destinations and other data for approximately 60 transit services throughout the region and in several adjacent counties.

## Groundbreaking, Award-Winning

Implementation of the Bay Area 511 system by MTC and its partners provides a model for delivering comprehensive, accurate, reliable and timely transportation information within a large metropolitan region. The Bay Area 511 system was recognized by the Intelligent Transportation Society of America as the "Best New Product, Service or Application" for 2003. The 511 system also received a 2003 California Department of Transportation Award for transportation management, the 2003 Innovation Award from the American Public Transportation Association, and the Best Public Innovation and Best Partnership Awards from the California Alliance for Advanced Transportation Systems.

# reliability

## A Reliable Commute

Every day people make choices about the easiest way to make trips to their jobs, shopping, school or recreation. As every traveler knows, certain corridors are heavily congested as too many vehicles try to get to too many places at the same time. Future regional growth will result in continued traffic problems throughout the Bay Area and in most of today's chronically congested corridors. However, travelers will benefit by having an expanded range of choices for making trips based on their personal requirements for travel time, cost, convenience and reliability.

Many of the building blocks for an effective multimodal regional transportation system are already in place. Over the years, extensive new transit, carpool and bike facilities have been created to provide new choices to travelers. In addition to these expanded choices, traffic management and operations strategies, such as incident detection and real-time information, and increased use of new technologies, are key to reducing the impact of traffic congestion on people's lives and businesses.

The public also perceives the need to fine-tune the system at key locations, where people connect between modes. Good connections require a range of strategies, from removing physical barriers, to better information, to having more services to connect to.

Finally, whether people make trips by bike, transit or car, they desire a certain amount of predictability in terms of how long their trip will take. The manufacturing and freight shipping industries also depend heavily on the delivery of products within specified time windows.

### Objectives

- Provide travel options that are responsive to individual preferences for time, cost, convenience and trip reliability
- Increase the number of on-time trips
- Improve connections between transit systems and between freeway segments
- Improve information on travel conditions and options
- Make cost-effective use of new technologies to support objectives

### Examples of Current Efforts

Regional customer service programs such as the 511 traveler information system (see facing page), FasTrak™ electronic toll collection system, freeway call boxes and roving tow truck patrols make the existing transportation system more reliable for travelers. Caltrans' Traffic Operations System (ramp metering, message signs, incident detection), as well as signal coordination and retiming help traffic flow more smoothly. Carpool lanes along with the newly proposed network of high-occupancy/toll (HOT) lanes and the Resolution 3434 Regional Transit Expansion Program will provide reliable travel alternatives in the most congested travel corridors. And funding for the Regional Bicycle Network will add reliable travel alternatives for shorter trips.

### Key Measures of Progress

- Capacity added to the Metropolitan Transportation System
- Levels of service in congested corridors
- Progress with freeway ramp meters and traffic signal retiming
- On-time transit performance
- Effectiveness of incident management strategies
- New transit connectivity projects
- Progress in improving traveler information

# Designing Travel Solutions at the Local Level

MTC is taking a grass-roots approach to identifying barriers to mobility and working to overcome them. With its Community-Based Transportation Planning program (CBTP), the agency has launched a collaborative planning process that involves residents in minority and low-income Bay Area communities, community and faith-based organizations that serve them, transit operators, congestion management agencies (CMAs) and MTC. The outcome of each planning process is a community-based transportation plan that includes prioritized, locally-identified transportation needs, as well as solutions to address them. Solutions could include fixed-route transit service, or other transportation services such as shuttles, bicycle options and auto-oriented options.

## Setting Priorities, Ensuring Participation

The program evolved out of two reports completed for the 2001 Regional Transportation Plan (RTP) — the *Lifeline Transportation Network Report* and the *Environmental Justice (EJ) Report*. The Lifeline Report identified travel needs in economically disadvantaged Bay Area communities and recommended community-based transportation planning as a way for communities to set priorities and evaluate options for filling transportation gaps. Likewise, the EJ Report identified the need for MTC to support local planning efforts in low-income communities throughout the region. Community-based transportation planning speaks to the environmental justice principle by ensuring the full and fair participation of minority and low-income populations in the transportation decision-making process.

MTC launched the CBTP program in October 2002 following the Commission's adoption of the CBTP program guidelines, which serve as a blueprint for program implementation. Several key guidelines are highlighted below.

- Each planning process will be a collaborative effort among local residents, community-based organizations, transit operators, CMAs and MTC, with CMAs serving as the lead agency to ensure local ownership upon completion of the plans.
- The results of the Lifeline Report will serve as the starting point for transportation gap analyses within each community.
- Each planning process will involve extensive community involvement, which will be tailored to each community to achieve maximum effectiveness.
- Final community-based transportation plans will contain the following essential elements:
  - Demographic analysis of the area
  - Documented community outreach strategies with results
  - A listing of community-prioritized transportation gaps and barriers
  - A listing of strategies or solutions to address identified gaps
  - A listing of potential funding sources for solution implementation
  - Identified stakeholders committed to implementing the plan
- Project findings will be forwarded to applicable local or county-level policy boards, as well as to MTC. Recommended service improvements will be forwarded to transit policy boards for consideration and incorporation into short-range transit plans, and to other appropriate policy boards for planning, funding and implementation discussions.

## Launching a Pilot Program

To begin CBTP implementation, a pilot program was initiated in early 2003 in five of the 25 communities outlined in the CBTP guidelines. Included were:

- Alameda County: South Hayward/ Ashland/Cherryland
- Contra Costa County: Richmond/ North Richmond/Old Town San Pablo
- Napa County: the city of Napa (and surrounding communities)
- San Mateo County: East Palo Alto
- Solano County: Dixon

Community-based transportation plans for these communities were completed in 2004. Results were presented to transportation policy boards and used to inform local, county and regional planning efforts.

After assessing the results of the pilot program to determine successful approaches to project implementation, community involvement and the development of unique transportation solutions, MTC will implement community-based transportation planning in additional low-income Bay Area communities as outlined in the CBTP guidelines.

# access

AC TRANSIT

## Access to Mobility

MTC must consider the needs of all travelers in order to determine equitable distribution of mobility benefits. Certain segments of the population have fewer mobility options and therefore require special attention in transportation planning: households without a car, school children, older adults and the disabled. Removing existing barriers to mobility for older adults, the disabled, low-income persons and school children is a shared responsibility among many organizations, including transportation and social service agencies. While not the only solution to the mobility needs of these individuals, public transit will play a key role in many of the desired trips. The cost of transportation can also be a barrier to travel to work, school, medical services or basic shopping.

### Objectives

- Identify barriers, such as gaps in service, affordability and safety
- Improve delivery of services by coordinating with a range of agencies
- Secure adequate resources to respond to lifeline mobility needs

### Examples of Current Efforts

Identification of a Lifeline Transportation Network; Low Income Flexible Transportation (LIFT) investment program; ADA and paratransit funding; Transportation for Livable Communities (TLC) and Housing Incentive Program (HIP) projects in disadvantaged communities; various planning studies such as the Older Adults Transportation Study; Transportation Costs Study; Community-Based Transportation Plans (see facing page); social equity analysis for Transportation 2030.

### Key Measures of Progress

- Amount of Lifeline transportation service provided
- Progress in implementing transportation programs for older adults
- Progress in completing community-based plans
- MTC and transit operator Title VI reports

## Revitalizing Communities With a Little "TLC"

At the local level, relatively modest transportation investments can yield outsized benefits. Modifying streetscapes and creating environments friendlier to pedestrians, transit riders and bicyclists can make communities more vibrant and attractive places in which to live and work. Building upon this momentum, communities can better focus their planning efforts on intensifying land uses and providing a diverse mix of uses to further enhance community livability.

To identify and nurture these kinds of projects, MTC launched the Transportation for Livable Communities (TLC) Program in 1998. The TLC program funds inclusive, "bottom-up" community planning and provides capital grants for project design and construction. In an effort to encourage the creation of higher-density, transit-accessible housing, MTC expanded the TLC portfolio in 2000 to include the Housing Incentive Program (HIP), which rewards cities and counties that encourage developers to provide dense housing within walking distance of major transit routes.

### Awarding Dollars, Receiving Awards

Through 2002, close to $60 million has been awarded to some 150 planning, capital and HIP projects in scores of communities around the region.

TLC projects are located within downtowns, commercial cores, neighborhoods and transit corridors, particularly around the urban cores. Several projects are located in suburban and rural communities where downtown redevelopment activities are taking place. More than half of the TLC projects are located in disadvantaged communities around the region. Some $40 million in TLC funds have been allocated to projects that support improvements to pedestrian facilities — sidewalks, crosswalks, bulb-outs, medians — while the balance of TLC funds are spent on improving or creating new bicycle routes or transit access.

In 2002, the TLC program was selected as one of eight national winners in the American Association of State and Highway Transportation Officials' "Smart Moves: Transportation Strategies for Smart Growth" competition. In addition, the TLC program earned MTC a 2002 Association of Metropolitan Planning Organizations (AMPO) National Award for "Outstanding Overall Achievement."

### Popular Program, High Standards

From its inception, the TLC program has generated a great deal of interest from around the Bay Area. Faced with the tremendous demand for TLC funds, MTC continues to raise the bar in terms of project selection. And project sponsors from within the region, in turn, continue to rise to the heightened expectations, proposing creative transportation solutions to help address complex land-use challenges.

As the Bay Area strives to find innovative ways to influence regional growth and development, TLC provides a successful model of how a regional transportation agency can develop valuable partnerships with local governments to plan for more sustainable land-use patterns.

# livable communities

PETER BEELER

## A Region of Vibrant Neighborhoods

It is widely recognized that, over the long term, transportation and land-use decisions will affect regional travel patterns as well as opportunities within communities for biking, walking or using transit. The Bay Area's Smart Growth Vision recommends that future development take place around major transit lines or in other infill locations within the urban core to increase regional housing stock and improve transportation options. There appears to be early consensus that, from the regional level, the most effective approach for achieving these desirable land-use patterns is through incentives to local government. In addition, smaller-scale projects funded through MTC's Transportation for Livable Communities and Housing Incentive programs (TLC/HIP — see facing page) will continue to play a role in helping communities create vibrant neighborhoods while expanding travel options within these communities.

### Objectives

- Create incentives to encourage transit-oriented development around regional transit systems and mixed-use development elsewhere
- Create new and safer ways to get around within communities by fostering walking and biking and connecting communities to transit
- Partner with local communities in developing transportation approaches that enhance community vitality for neighborhoods and retail centers

### Examples of Current Efforts

Participation in regional Smart Growth initiative; expanded funding for TLC/HIP; Resolution 3434 regional transit expansion policies for supportive land-use plans around new transit lines; Transportation Planning and Land-Use Solutions (T-PLUS) — partnering with CMAs to help inform local land-use decisions.

### Key Measures of Progress

- Number of TLC projects completed
- Number of new transit-oriented development projects assisted with HIP
- Number of new mixed-use development projects assisted with HIP
- Annual results of T-PLUS program

# clean air

## Clearing the Skies

The federal and state governments have set standards to maintain healthy air. Over the last two decades, state and regional air quality agencies have achieved major reductions in chemicals that help form smog, and the Bay Area now meets the federal one-hour ozone standard. While most reductions from motor vehicles come from strict state controls on vehicle engines and fuels, certain types of transportation investments can help reduce the number of vehicle trips and lower emissions through more efficient traffic flows on freeways and local streets. Maintaining good air quality will require increased emphasis on efforts to control emissions on specific days when ozone could reach unhealthy levels. New challenges will include tackling the reduction of small particulate matter from vehicles (an emerging health concern), and further collaboration with the Central Valley on reducing transport of pollution from Bay Area sources.

### Objectives

- Achieve additional reductions in motor vehicle emissions through effective transportation control measures
- Working with the Bay Area Air Quality Management District, develop new episodic control strategies for predicted high-ozone days
- Help reduce particulate matter from buses and other heavy-duty vehicles
- Promote non-motorized travel to reduce auto trips

### Examples of Current Efforts

Ongoing implementation of various state and federal transportation control measures; funding for emission control devices on urban buses to lower ozone precursors and particulate matter. (See "Clean Air in Motion" on page 48 for more information on the Transportation 2030 Plan's clean air initiatives.)

### Key Measures of Progress

- Periodic analysis of consistency between the Transportation 2030 Plan, Transportation Improvement Program (TIP) and the federal air quality plan (also known as transportation "conformity")
- Progress in retrofitting urban buses with new emission controls
- Development of new episodic controls on Spare the Air days
- Progress in funding bicycle and pedestrian projects

Port of Oakland

# efficient freight travel

HEWLETT-PACKARD

## Moving Goods to Market

Expected increases in population and a resurgent economy will contribute to increased truck movement throughout the region, especially near the Bay Area's major airports and seaports. Innovation in intermodalism has transformed the movement of freight, creating efficient connections between carriers, but ultimately the region's major freight corridors will need further expansion. Both congestion on key freight routes and the reliability of trip times have become major concerns for those who move freight within, into and out of the Bay Area. The increasing cost of moving freight in the region could contribute to a higher cost of living, while impediments in shipping freight could lead some industries to relocate.

### Objectives

- Identify key improvements in the surface transportation system where public investment can help the freight industry
- Identify long-term capacity issues associated with cargo movement through airports and seaports
- Collaborate with the private sector to best leverage both public and private financial resources to improve freight-related infrastructure

### Examples of Current Efforts

Regional Freight Initiative — to identify future freight improvement projects in the region and issues related to zoning protection for freight activities; advocacy related to new federal transportation reauthorization bill. (For more information on the Transportation 2030 Plan's freight policies, see "Moving Goods to Market" on page 76).

### Key Measures of Progress

- Identification of key freight projects and associated funding
- Development of a regional truck network on local arterials
- Inclusion of a regional air cargo plan element in the next Regional Airport System Planning Analysis

- safety
- reliability
- access
- livable communities
- clean air
- efficient freight travel

## Monitoring Our Progress

MTC will use the Key Measures of Progress listed with each goal to monitor the degree to which its actions, guided by policies set forth in Transportation 2030, advance the Transportation 2030 goals. The measures of progress will be reported as part of a comprehensive review of Transportation 2030 policies during the next long-range plan update.

MTC's promise to monitor how its policies and actions address the Transportation 2030 goals extends MTC's existing commitments to performance monitoring. MTC already reports regularly on the overall performance of the transportation system with respect to several of the Transportation 2030 goals. The *Bay Area Transportation: State of the System* report, published jointly by MTC and Caltrans District 4, includes performance statistics on the state of repair, mobility and safety of the region's transportation network. MTC also reports annually on the performance of regional services it offers directly to the traveling pubic. The *Project Performance Report* series tracks efficiency, effectiveness and customer satisfaction with the 511 Traveler Information System, TransLink® electronic fare payment system, roadside Call Box System and the Freeway Service Patrol roving tow truck program.

trends
CHARLES SUPTON, SCORBIS

# trends

The way the Bay Area handles growth and transportation infrastructure needs will exert a powerful influence on how our region looks and functions in the years ahead. The success of the Bay Area economy accelerated the pace of job growth in the last decade, but housing and transportation supply were not able to keep up. Given the latest set of population and employment projections for the next 25 years, it is clear that transportation challenges will be even greater in the future as we look for more effective ways to serve the travel needs of the region's residents and employers, and the growing number of workers who commute to Bay Area jobs from outside the region.

To probe the dimensions of this challenge, MTC utilized economic and demographic projections to forecast how much our population will grow, how many new jobs will be created and where new housing will be produced. We also rely on the most advanced computer-based travel forecasting technology to determine how much travel will occur, where people will go and what mode they will use. These tools help us understand how the investments proposed in the Transportation 2030 Plan will lead to better mobility for the next generation.

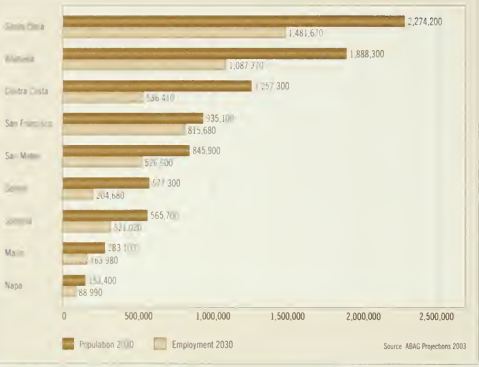
## Population, Employment and Travel Trends

### Population and Employment

Today, the Bay Area is home to nearly 7 million people and supplies more than 3 million jobs — making our region California's second-largest population and economic center. From 1990 to 2000, the region's population grew from just over 6 million to 6.8 million people, an average increase of 1.3 percent a year. Annual job growth averaged a robust 2.2 percent during this same period. By 2030, job growth will continue to outpace population growth but to a lesser degree than in the previous decade. The Bay Area population will grow to 8.8 million by 2030, a 29 percent increase from 2000 or an average of 0.7 percent growth a year. Growth in employment will slow to 1.3 percent a year, reaching a total of 5.2 million jobs in 2030.

Sixty-two percent of the region's population will be found in Santa Clara, Alameda and Contra Costa counties, which will collectively house over 5 million residents. Jobs will remain concentrated in Santa Clara, Alameda and San Francisco counties, with 3.3 million jobs in these three counties. (See graph on "Population and Employment by County," page 24.)

## Bay Area Population and Employment by County, 2030




Source: ABAG Projections 2003

### Top 10 Population Growth Cities

| City | 2000–2030 Change |
|---|---|
| San Jose | 385,457 |
| San Francisco | 158,367 |
| Oakland | 122,116 |
| Fremont | 53,687 |
| San Ramon* | 46,278 |
| Fairfield | 46,122 |
| Dublin | 44,527 |
| Santa Rosa | 43,405 |
| Pittsburg | 42,431 |
| Vacaville | 41,975 |

*Includes Dougherty Valley

Source: ABAG Projections 2003

### Top 10 Job Growth Cities

| City | 2000–2030 Change |
|---|---|
| San Jose | 188,760 |
| San Francisco | 181,250 |
| Oakland | 69,790 |
| Santa Rosa | 55,420 |
| Fremont | 55,280 |
| Livermore | 44,650 |
| Unincorporated | 40,300 |
| Santa Clara | 35,560 |
| Sunnyvale | 32,370 |
| Concord | 26,170 |

Source: ABAG Projections 2003

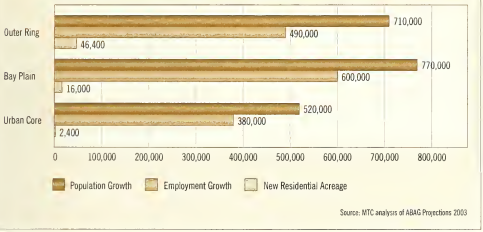
Several changes in the Bay Area's demographics will have strong transportation implications. While about 10 percent of Bay Area residents are age 65 or older today, this age group will comprise nearly 25 percent of the population in 2030. Furthermore, the number of people over age 85 will double by 2030. Meeting the mobility needs of the Bay Area's aging population will mean changes in a number of areas, from the design of cars to funding for paratransit systems.

As an indicator of the powerful socio-economic changes within California, the percentage of non-Hispanic whites will decline to 34 percent of the total Bay Area population in 2030 from 50 percent in 2000. Latinos will increase to 31 percent and Asians to 24 percent. The African American population will decrease slightly to 6.5 percent. However, changing demographics could also increase disparities between income groups, possibly leaving some residents with fewer travel options.

Economically, increases in income levels will affect transportation choices as well. Average household income in the Bay Area will rise in real terms from $92,000 in 2000 to $118,000 in 2030. The level of auto ownership is likely to rise along with income, as more families will be able to purchase additional vehicles.

## The Direction of Future Growth

Transportation 2030 looks at the future through the lens of the Projections 2003 forecast (see "Land Use and Growth," page 32) prepared by the Association of Bay Area Governments (ABAG). This forecast assumes that a significant share of new development will occur in infill opportunity zones in the urban core and, to a lesser extent, in existing suburbs. Indeed, the three largest urban centers — San Jose, San Francisco and Oakland — are projected to lead the region in population and job growth (see tables above). Growth will continue to occur in other cities and suburbs throughout the region with an emphasis on development around regional transit hubs, urban neighborhoods and older suburbs.




**Residential Density**

Persons per residential acre, 2000–2030

| Ring | 2000 | 2030 |
|---|---|---|
| Urban Core | 36.1 | 44.9 |
| Bay Plain | 13.8 | 16 |
| Outer Ring | 6.1 | 7.3 |
| Region | 11.6 | 13.5 |

Source: MTC analysis of ABAG Projections 2003

**"THE FORECAST ASSUMES THAT A SIGNIFICANT SHARE OF NEW DEVELOPMENT WILL OCCUR IN INFILL OPPORTUNITY ZONES IN THE URBAN CORE."**

To better understand future growth trends, it is useful to summarize growth in population, employment and residential acres by three land-use patterns within the region. At the center are the urban cores, consisting of San Jose, San Francisco and Oakland (with adjacent Emeryville and Berkeley). Around these cities is the Bay Plain, consisting of the inner suburban communities between the Bay and the surrounding hills. The outer ring is comprised of the more distant suburbs and agricultural land that make up the rest of the nine-county area. The graph above shows that the urban core will accommodate about 25 percent of the population increase. The remaining population growth will be split about evenly between the outer ring and the Bay Plain. This represents a marked change from current growth patterns under which, if projected into the future, approximately 10 percent of population growth would occur in the urban core and more than 50 percent in the outer ring.

The growth pattern assumed under Projections 2003 is characterized by increases in average development density, particularly in the urban core, reflecting an interest in preserving agricultural lands and open space. With a strong emphasis on infill and transit-supportive development, residential densities in the urban core will increase significantly from 36.1 to nearly 44.9 persons per residential acre. At the other end of the spectrum, residential densities in the outer ring will increase just marginally from 6.1 to 7.3 persons per residential acre (see table above).

## The Nature of Travel in 2030

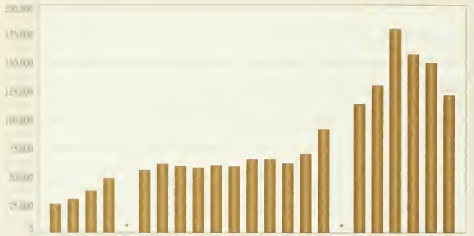
Travel decisions are influenced by many factors, including the need to attend school, get to work, visit the doctor, shop or buy groceries, catch a flight at an airport, or even just the desire to play in the neighborhood park. Estimating the amount of travel that will occur in the future is a complex task that involves determining the types of trips made, the geographic origins and destinations of trips, and the travel time and cost factors that influence decisions about whether people will use a car, take transit or walk to make their trips. Every 10 years, MTC updates information on personal travel behavior by collecting key information from a sample of Bay Area households (including retired people and people who work at home). This information is then fed into computer models that project how much travel will occur, where people will travel and how they will travel.

Available data from the 2000 U.S. Census provides information on the travel patterns within the Bay Area. In 2000, residents made an estimated 21 million trips on an average weekday, which is 3 million more trips than in 1990. Not only are Bay Area residents traveling more, many trips are taking longer. An average Bay Area commute took 24.3 minutes in 1980, 25.6 minutes in 1990 and 29.4 minutes in 2000. With the increases in population

## Average Travel Time to Work, 1980–2030

Source: U.S. Census Bureau, MTC travel forecasts

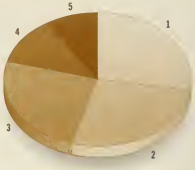
## Congestion (Daily Vehicle Hours of Delay) on Bay Area Freeways, 1981–2003




*Data not available

Source: Caltrans District 4

## Trips by Purpose, 2030




| | | 2000** | 2030** |
|---|---|---|---|
| 1 | Other* | 28% | 28% |
| 2 | Work | 25% | 27% |
| 3 | Shopping | 25% | 25% |
| 4 | Recreation | 12% | 12% |
| 5 | School | 11% | 9% |

*All trips refer to trips that originate from the home except for "other" trips, which originate from places other than home (e.g., work-based errands)

**Percentages do not sum to 100 percent due to rounding

Source: MTC travel forecasts

and employment expected to occur in the region, it is no surprise that the average travel time to get to work will increase to 31.1 minutes in 2030 (see graph at top of page). While development patterns and lifestyle choices certainly have contributed to growth in commute time, increasing traffic congestion is a major factor. A gradual growth in traffic congestion occurred through the 1980s and mid-1990s with a dramatic increase leading up to 2000. Congestion has declined in the past several years with the relatively cool Bay Area economy, and by 2003 had fallen back to 1989 levels (see lower graph above).

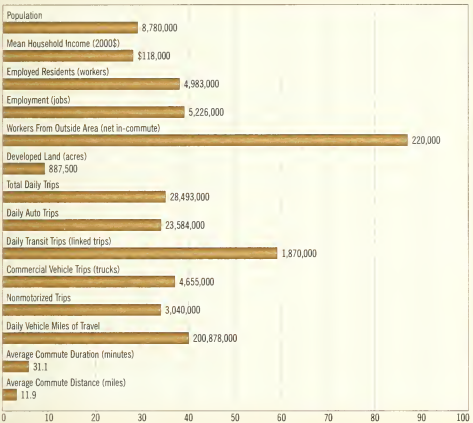
The total number of daily trips made by Bay Area residents is projected to grow by 35 percent to a total of 28.5 million by 2030. Similar to today, just over a quarter will be work-related. Work trips typically define the peak demand for the transportation system because of their length and timing. Other major trip purposes include travel to shopping, recreation and school (see pie chart above).

**"TRAVEL ACTIVITY AS REFLECTED BY DAILY TRIPS INCREASES AT A HIGHER RATE THAN POPULATION GROWTH BUT AT A LOWER RATE THAN EMPLOYMENT GROWTH."**

Truck trips will grow 37 percent to 4.7 million in 2030. Most truck traffic will occur in the same corridors that serve as major truck routes today: I-880 serving the Port of Oakland and major industrial areas in Alameda and Santa Clara counties; I-580 linking the Bay Area to the Central Valley; and Highway 101 serving San Francisco International Airport (a regional hub for air cargo) and the population and industrial centers of San Francisco, San Mateo and Santa Clara counties.

## Regional Demographic and Transportation Indicators

Bay Area Total in 2030 and Percent Change From 2000




Source: MTC travel forecasts and ABAG Projections 2003

## Work Trips by Mode, 2000 and 2030

| Mode Share | 2000 | 2030 | Change in % |
|---|---|---|---|
| Drive Alone | 71.0% | 68.1% | –2.9 |
| Carpool | 13.7% | 13.9% | +0.2 |
| Transit | 10.9% | 13.3% | +2.4 |
| Walk | 3.3% | 3.3% | — |
| Bicycle | 1.1% | 1.4% | +0.3 |

Source: MTC travel forecasts

## All Trips by Mode, 2000 and 2030

| Mode Share | 2000 | 2030 | Change in % |
|---|---|---|---|
| Auto* | 83.7% | 82.8% | –0.9 |
| Walk | 9.2% | 9.2% | — |
| Transit | 5.6% | 6.6% | +1.0 |
| Bicycle | 1.5% | 1.4% | –0.1 |

*Drivers and passengers

Source: MTC travel forecasts

One way to put travel projections into perspective is to compare them with other key indicators, as in the bar graph above. Travel activity as reflected by daily trips increases at a higher rate than population growth but at a lower rate than employment growth. The number of trips by walking and bicycling (nonmotorized trips) and by automobile will increase at rates comparable to the overall growth in trips (34 percent each). Transit ridership, however, is projected to increase almost twice as fast (59 percent), reflecting assumptions that much new population and employment growth will be focused in the urban core areas and along transit corridors.

The noteworthy growth in transit ridership represents a slight but significant change in travel patterns, particularly for travel to work. While automobiles will continue to be the most popular mode of travel, the share of all work trips by automobile (drive-alone and carpool) will drop from close to 85 percent in 2000 to 82 percent in 2030. All of the decrease results from a drop in the share of drive-alone trips. There is a corresponding increase in the share of work trips by transit, which will rise to 13 percent in 2030 from just under 11 percent in 2000 (see table at top right). When it comes to all trips (work and nonwork trips), automobiles will account for 83 percent of trips and transit trips for just fewer than 7 percent of trips. Walking is a more common mode of travel when it comes to all trips (9 percent), though it makes up just over 3 percent of work trips (see tables above).

The increase in the share of work trips by transit, though small in percentage terms, represents a significant increase in the number of additional people taking transit each day. The net increase in 2030 is 433,000 transit riders on an average weekday or about 108 million additional transit riders each year. This is slightly more than the number of people who rode BART in all of 2003. Added capacity will be required in order to accommodate the increased demand on those bus and train systems that are already crowded at peak commute hours, such as BART through the transbay tube, Muni trunkline bus and light-rail routes, and downtown rail stations.

## Daily Travel Patterns

Bay Area residents crisscross the region daily in an intricate pattern of trips that is largely shaped by where people live and work. As can be seen in the map on the facing page, most people's trips in 2030 will begin and end in the county where they live. Trips within counties account for approximately 85 percent of all trips and 70 percent of all work trips, and this percentage will remain stable over the next 25 years.

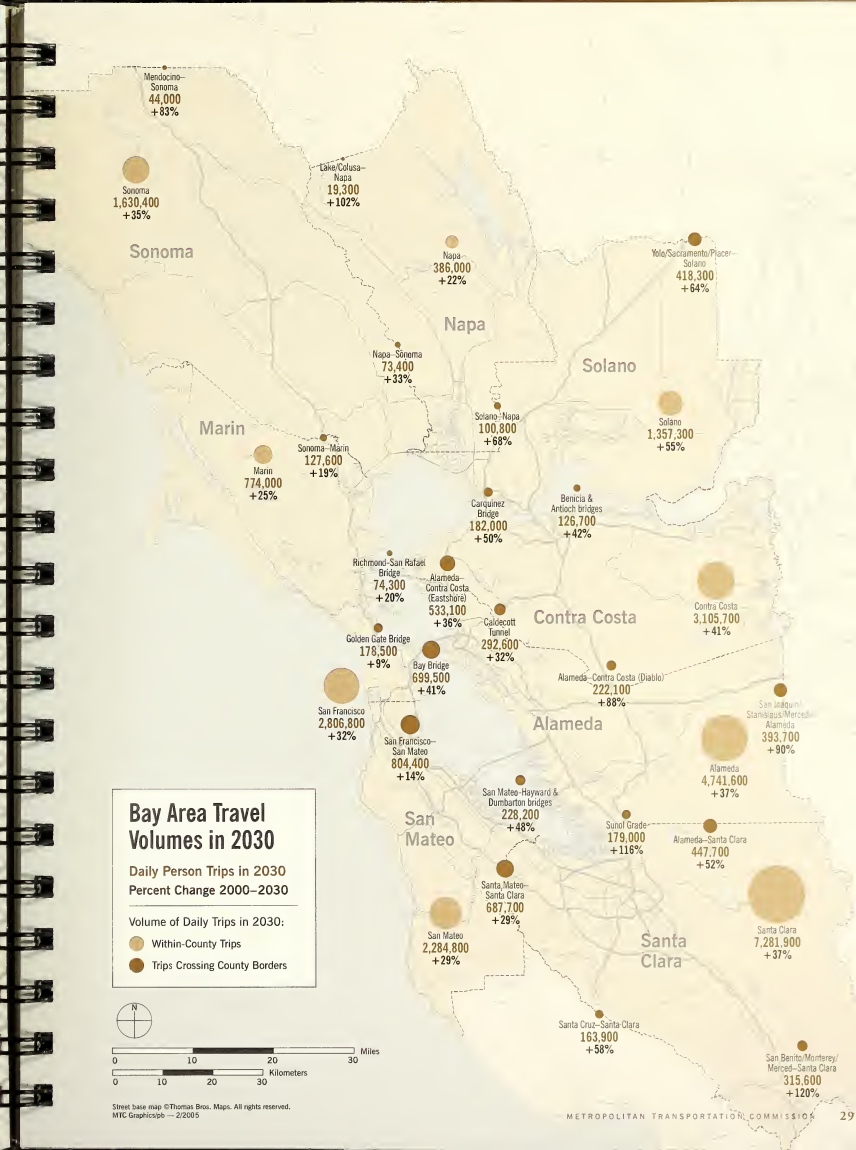
One way to assess future travel patterns is to look at the number of trips made in either direction across "screenlines," that is, the number of trips crossing a particular geographic location, typically the boundary between two counties or between two subareas within a county. Many of the major transportation investments in Transportation 2030 are directed at trips across these screenlines, which reflect the major travel markets. The busiest screenlines within the region include the San Francisco-San Mateo county border, the San Francisco-Oakland Bay Bridge, and the San Mateo-Santa Clara county border, which are characterized by some of the region's most robust transit service.

The most significant change in daily trips between Bay Area counties from 2000 to 2030 will occur over the Sunol Grade between Alameda and Santa Clara counties (116 percent increase in daily trips), within the I-680 south corridor between Contra Costa and Alameda counties (88 percent increase in daily trips) and between Napa and Solano counties on routes 12 and 29 (68 percent increase in daily trips).

LARGE HERE/SAN FRANCISCO CHRONICLE

> "MOST PEOPLE'S TRIPS IN 2030 WILL BEGIN AND END IN THE COUNTY WHERE THEY LIVE."

Gateways into the Bay Area from neighboring counties represent some of the fastest-growing travel markets, as the number of Bay Area workers who commute from neighboring counties will continue to rise due to the higher cost and relative scarcity of housing with the region. Although Transportation 2030 calls for more housing within the region than would be expected under current trends, the odds are stacked against a complete correction of the current Bay Area housing deficit in the next 25 years. Of course, people will travel to the Bay Area from neighboring counties for other reasons, too, including for shopping, recreation, school and other purposes. The busiest regional gateway in 2030 will be the Alameda County/Central Valley border, which will witness 394,000 daily trips for work and other purposes on an average weekday. Only the northern- and southernmost gateways are expected to grow faster, though they will be less busy in terms of absolute number of trips. At the southern tip of the region, the number of daily trips at the gateway between Santa Clara County and the counties of San Benito and Monterey will increase 120 percent. Daily trips at the northernmost gateway between Napa County and Lake County, though small in total number, will grow 102 percent, overloading the largely rural and winding roads in that part of the region.

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MTC Graphicsjob — 2/2005

# Bay Area Land Use and Growth Patterns: From Vision to Policy

As with past long-range transportation plans, the Transportation 2030 Plan uses the economic-demographic forecasts produced by the Association of Bay Area Governments (ABAG) — the latest forecasts being Projections 2003. In a departure from previous forecasts, Projections 2003 is founded on a vision of how the Bay Area might wish to direct residential and job growth in the future based on alternative land-use policies developed through ABAG's Smart Growth Project. The outcome of this planning effort was the Smart Growth Vision for the region — a new growth pattern that builds supportive development around transit stations and directs growth into revitalized central cities and older suburbs.

ABAG translated the Smart Growth Vision into specific economic and demographic forecasts for Projections 2003, reflecting market forces as well as the principles and strategies of the Smart Growth Vision. The forecasts show what the region could look like if local jurisdictions, the state and other agencies begin to implement the necessary policies to direct growth consistent with the Smart Growth Vision. While Projections 2003 does not achieve all of the Smart Growth Vision's numeric goals for directing new growth to already-developed areas, it does illustrate how the region as a whole can move in this direction. While state and regional policy changes will help to meet the Projections 2003 trends, changes to existing local general plans will be the deciding factor.

**Transportation 2030 Demographic Forecasts (Projections 2003) Compared to the Prior Forecast, Year 2025**

Source: ABAG Projections 2002 and Projections 2003

**Location of New Households in Projections 2003 and Prior Forecast, Year 2025**

Source: ABAG Projections 2002 and Projections 2003

Increasing the amount of housing within the Bay Area to accommodate the region's growing workforce and slow the movement of Bay Area workers to neighboring counties for more affordable housing is among the key principles of the Smart Growth Vision. In carrying out this principle, ABAG forecasts 88,000 more households and 234,000 more residents in the Bay Area in 2025 in Projections 2003 as compared to its prior Projections 2002 forecast. Projections 2003 similarly shows an increase of 155,000 in the number of employed residents in 2025 compared to Projections 2002 (see top bar graph). As a result, the growth in the number of Bay Area workers who commute from neighboring counties will be slower than one would assume based on prevailing growth patterns. Furthermore, Projections 2003 projects 220,000 Bay Area workers will reside in neighboring counties in 2030, whereas Projections 2002 projected this number would reach 265,000 by 2025.

The Smart Growth Vision also calls for changes in the location of future growth. To slow the loss of agricultural land and open space to new development, a larger share of new housing and commercial development would be directed along major transit corridors and to infill opportunity zones in urban and suburban communities. Consistent with this principle, Projections 2003 shows 25 percent of new households created between 2000 and 2025 would be located in the urban core composed of San Francisco, San Jose and Oakland, a substantial increase over the 15 percent shown in past forecasts. Similarly, the share of new housing located in the outer ring (composed of the more distant suburbs and current agricultural land) decreases to 38 percent in Projections 2003 from 50 percent in the prior forecast (see lower bar graph).

JULIA SMITH, GETTY IMAGES

# financial foundation

This chapter documents the financial assumptions that go into the financially constrained element of the Transportation 2030 Plan, and identifies how much money is available to address critical transportation needs. This financially constrained element, composed of federal, state, regional and local revenues, is what we think we can afford over the next 25 years with currently available revenues — our "down payment" on future mobility, so to speak. MTC has developed a series of "calls to action" that will be needed to address projected funding shortfalls and support our overall vision for the Transportation 2030 Plan.

The Transportation 2030 Plan applies three broad approaches for improving our transportation system — adequate maintenance, system efficiency and strategic expansion. Each effort will call upon us to make tough decisions on what investments we make. The bottom line, however, is that the vision element of the Transportation 2030 Plan will fall short of full implementation due to scarce resources. The Bay Area will need to find new revenue to meet the transportation challenges ahead.

## The Down Payment

### Financial Assumptions

In 1991, the Intermodal Surface Transportation Efficiency Act (ISTEA) instituted a requirement that long-range transportation plans be financially constrained. Successor legislation, the Transportation Efficiency Act for the 21st Century (TEA 21), passed in 1998, reaffirmed this federal planning mandate. TEA 21 expired on September 30, 2003. Congress has not yet passed new authorizing legislation, but it appears likely that the "financial constraint" feature of current law will continue.

The financial assumptions for the financially constrained element of the Transportation 2030 Plan are as follows:

- Federal highway revenues for Surface Transportation Program (STP), Congestion Mitigation and Air Quality Improvement (CMAQ) Program and Transportation Enhancements are assumed to grow at a rate of 3 percent annually based on the average apportionment levels that the Bay Area received during TEA 21.

- Federal transit revenues for Federal Transit Administration (FTA) Sections 5307, 5309, 5310 and 5311 are assumed to grow at a rate of 3 percent annually based on the fiscal year (FY) 2004 appropriation levels.

- Senate Bill 45 currently lays out the program structure and distribution formula for state revenues. This law is assumed to continue over the next 25 years. State revenues for the State Highway Operations and Protection Program (SHOPP), the State Transportation Improvement Program (STIP), and State Technical Assistance (STA) are assumed to grow at rates consistent with Caltrans' long-range travel and fuel forecasts.

# financial foundation

JOHN BENSON

- In March 2002, California voters approved Proposition 42, a measure that transfers sales tax on gasoline from the General Fund to transportation purposes. Starting in FY 2008–09, Proposition 42 is scheduled to augment the STIP, STA, and local streets and roads gas tax subventions by formula shares.

- The Bay Area is projected to receive its historic share of the federal and state discretionary revenues described above.

- Regional toll revenues are based on projected travel demand on each of the region's toll bridges.

- Revenues from Assembly Bill 1107 half-cent sales tax for the three BART counties of Alameda, Contra Costa and San Francisco are assumed to grow at an average growth rate of 6 percent, based on the Center for Continuing Studies on the California Economy's (CCSCE) 20-year taxable sales projections.

- Revenues for the Transportation Development Act, the quarter-cent sales tax imposed statewide, are based on the CCSCE taxable sales projections for each county.

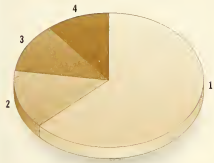
- County transportation sales tax revenues for Alameda, Contra Costa, San Mateo, San Francisco and Santa Clara are based on CCSCE projections. Revenues for measures approved by voters in November 2004 for San Mateo, Contra Costa, Marin and Sonoma counties are based on projections provided by the respective transportation authorities. Alameda county's sales tax measure, which has a fiscal year 2021–22 sunset date, is assumed not to be renewed. In the financially constrained element of this plan, no new transportation sales taxes are assumed for those counties where they presently do not exist (Napa and Solano counties).

- Local streets and roads revenues include state gas tax subventions, county sales tax subventions and other local funds. A regionwide growth rate was applied to estimate these revenues over the next 25 years.

- Transit fares are expected to keep pace with inflation during the 25-year period. Projected revenues for operator-specific fund sources — such as the Golden Gate Bridge toll, AC Transit and BART property taxes, and San Francisco Muni general fund and parking revenue — have been provided by the respective operators.

### Projected 25-Year Revenues

Financially Constrained Element




| | | Billions of Dollars | Percent of Total |
|---|---|---|---|
| 1 | Local | $75 | 64% |
| 2 | Regional | $16 | 13% |
| 3 | State | $14 | 12% |
| 4 | Federal | $13 | 11% |
| | Total | $118 | 100% |

## Transportation 2030 Budget

Applying these assumptions to the main transportation revenues sources yields a 25-year revenue estimate of approximately $118 billion. This becomes the budget for the financially constrained element of the Transportation 2030 Plan. As shown in the pie chart above, most of these funds are from local sources, primarily transit fares, dedicated sales tax programs, state gas tax and county sales tax subventions to local streets and roads. Making up a smaller piece of the pie are state and federal revenues, mainly derived from gas taxes, and regional sources, mostly bridge tolls (including the recent voter-approved Regional Measure 2 Toll Bridge Program) and BART sales tax revenues.

## Making the Down Payment

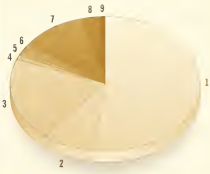
MTC begins by directing the projected $118 billion in available funding to the region's core investments. This is what we can afford to pay — our down payment. Prioritizing these funds for worthy projects and programs is a necessary first step of this plan.

The full impact of working within a $118 billion budget can only be appreciated when matching available revenues against the costs incurred in managing a bustling transportation system. Accordingly, MTC prepared estimates of the maintenance and operating costs for components of the transportation system. With these estimates in place, MTC can begin making commitments to fund these core investments.

The spending recommendations proposed by the Transportation 2030 Plan are focused on maintaining and operating the existing transportation system efficiently and making strategic investments to keep pace with the Bay Area's projected growth over the next 25 years. As shown in the pie chart to the right, $94 billion of our down payment — 80 percent — will go toward the ongoing maintenance and rehabilitation of the region's transportation infrastructure. The remaining expenditures include another $5 billion (4 percent) to operate and manage the system more efficiently and close to $19 billion (16 percent) to expand our highways, transit and local roads. The specifics on where to invest and how much of a down payment this plan proposes to make is explored in greater detail in the following chapter.

### Transportation 2030 Plan Expenditures

Financially Constrained Element




| | | Billions of Dollars | Percent of Total |
|---|---|---|---|
| Adequate Maintenance | | | |
| 1 | Transit | $61 | 51% |
| 2 | Highway | $10 | 9% |
| 3 | Local Roads | $23 | 20% |
| System Efficiency | | | |
| 4 | Transit | $2 | 1% |
| 5 | Highway | $1 | 1% |
| 6 | Local Roads | $2 | 2% |
| Strategic Expansion | | | |
| 7 | Transit | $13 | 11% |
| 8 | Highway | $5 | 4% |
| 9 | Local Roads | $1 | 1% |
| Total | | $118 | 100% |

While the funding picture presented here covers most of the region's projected transportation expenses, it does not capture the "universe" of transportation spending in the region. For example, the $118 billion does not include airports, seaports, and private freight and rail operations. Neither does it include the large personal expenditure on transportation by individuals, largely through out-of-pocket costs for automobiles — purchase price, gasoline, insurance, etc.

## Funding the Transportation 2030 Vision

Although a vast sum of money, the $118 billion budget is not enough. The Bay Area is faced with tremendous funding shortfalls just to maintain the existing transportation network, including transit operating and capital replacement ($4.1 billion) and local streets and roads maintenance ($6.1 billion). Our state highway system continues to age and fall into a state of disrepair due to a $7 billion shortfall. Full deployment of our regional operations programs such as TransLink®, 511, Freeway Service Patrol, call boxes and freeway system management improvements — all of which are designed to squeeze more mileage from the existing transportation system — is short-circuited due to a $439 million shortfall. Bicycle and pedestrian needs aren't fully funded. And opportunities for us to make strategic expansion investments in our transit and roadway systems are missed because the dollars just aren't there.

The next big step for the Transportation 2030 Plan is to develop a regional strategy to address significant shortfalls in maintaining our local roads and transit networks, and to fund system efficiency and capacity investments to keep pace with the region's growth. We must forge a strong regional consensus around this strategy, and generate the momentum needed to deliver it within the near term. The implied timeframe for this Transportation 2030 vision is within the next five to 10 years if it is to represent a real "call to action." To this end, the plan defines a set of complementary revenue and policy measures to guide our efforts to restore our roads, squeeze more efficiency out of the system and improve regional mobility. Each call to action is predicated on steps that MTC believes to be realistically achievable in the years ahead.

Success in carrying out this vision will require imposing higher transportation fees and taxes to generate much-needed revenues. This is a steep hill to climb, and MTC will need all the help we can get from our local partners, state legislators and members of Congress to deliver new funding and better mobility. Most of all, we will need the active participation of an engaged Bay Area citizenry to carry the day.

### Call to Action and Advocacy

Key transportation revenue sources that MTC — along with our transportation partners and stakeholders — will pursue include new and renewed county-level transportation sales taxes for Solano, Napa and Santa Clara counties, a new Sonoma Marin Area Rapid Transit (SMART) district tax, a high-speed rail general obligation bond, a new vehicle registration fee, a new regional gas fee, and toll revenues from a Bay Area high-occupancy/toll (HOT) network. These new revenue sources could generate as much as $14.8 billion for additional transportation investment in the region over the next 25 years (see graph above).

Equally important in the search for new revenue is the need to select the right infrastructure investments once funding is secured. MTC supports a performance-based approach that weighs competing projects in a given corridor against each other according to criteria such as cost-effectiveness and congestion relief (see "Assessing Investments" on page 38).

#### County Transportation Sales Taxes

Local transportation sales tax measures have been the bulwark of the Bay Area's transportation funding in response to the reluctance of the state and federal governments to raise the fuel tax. Seven of the

nine Bay Area counties have successfully enacted voter-approved transportation sales tax initiatives. As a result of the passage of their November 2004 measures, San Mateo and Contra Costa counties join Santa Clara, Alameda, and San Francisco counties in having successfully renewed their existing sales tax measures. Marin and Sonoma counties also became a part of the "self-help" movement by securing voter support for new sales tax measures. Solano County made a valiant effort at the ballot, receiving 64 percent of voter approval but ultimately falling short of the two-thirds majority needed for passage. Additionally, Napa County attempted to ride the wave of sales tax measures, but failed to gain the necessary board approvals to place it on the November 2004 ballot. Santa Clara County may consider going back to the voters for approval of another county sales tax measure in the near future.

### High-Occupancy/Toll (HOT) Network

MTC views the HOT concept as a promising strategy to expand the region's HOV lane system and to introduce a pricing signal to motorists and encourage wise use of the highway network. Bonds could be issued against the new toll revenue to finance construction of HOT lanes where gaps exist in the HOV network, and to operate additional transit and rideshare services in a given HOV corridor. State legislative approval was recently secured to test this concept in Alameda and Santa Clara counties. HOT lanes already are successfully deployed in Orange and San Diego counties as well as in Houston and Minneapolis.

### Regional Gas Fee

MTC has legislative authority to seek voter approval of up to a 10-cent-per-gallon gasoline fee in Bay Area counties for identified transportation improvements. Revenues raised may help fund local streets and roads maintenance, transit capital replacement and operations, freeway system efficiency strategies and arterial strategies. Previous MTC polls have indicated some receptivity to a two- or three-cent levy, perhaps to maintain local roads ("pennies for potholes") and support transit capital replacement and operations. MTC assumes that a 5-cent-per-gallon gasoline fee (perhaps with a simple majority vote rather than the current two-thirds vote requirement) could be implemented in the near- to mid-term horizon of the Transportation 2030 Plan.

### Vehicle Registration Fee

The region could pursue legislative approval for a $20 vehicle registration fee for the Bay Area. The recent state legislative session saw two attempts — one successful and one not — to impose new vehicle registration fees. Winning passage was Assembly Bill 1546 (Simitian), which authorizes the San Mateo City/County Association of Governments to impose a fee of up to $4 on motor vehicles registered in the county for the management of traffic congestion and stormwater pollution. Failing to win approval, however, was Assembly Bill 574 (Yee), which would have authorized the City and County of San Francisco to impose a fee on motor vehicles registered in the county for the construction, improvement and maintenance of local streets. Due to the scarcity of funding for local streets and roads maintenance, MTC would advocate that cities and counties use vehicle registration fee revenues to backfill their road maintenance needs.

### High-Speed Rail Bond

The California High-Speed Rail Authority plans to seek voter approval of $9.9 billion in general obligation bonds in 2006 (or perhaps 2008) to fund the initial stages of a high-speed rail network between southern California, the Bay Area and Sacramento. It will be fully integrated with the state's existing mass transportation network. The total price tag of the statewide high-speed rail system is about $37 billion. The Authority likely will need to incrementally implement high-speed rail segments and seek additional funding to develop a statewide high-speed rail system.

### SMART District Tax

The Sonoma Marin Area Rapid Transit (SMART) District plans to pay for the capital and operating costs of a commuter rail project extending from Cloverdale to San Rafael by levying a 20-year, quarter-cent sales tax starting in 2007 if voters agree. The state and federal funds that have already been secured for this project would leverage against the $660 million in potential revenues to be generated from this district tax.

# assessing investments

## Project and Program Evaluations

An important consideration in choosing future investments is the extent to which they help achieve the Transportation 2030 vision. In the months leading up to the preparation of the Transportation 2030 Plan, MTC conducted a performance evaluation of over 400 projects and programs. MTC's objective was to link potential investments to the Transportation 2030 goals and inform decisions about which new projects to recommend for inclusion and whether to recommit to existing projects with significant cost increases. The project-level performance evaluation represents an ambitious extension of the performance analysis for the 2001 Regional Transportation Plan, in which MTC assessed the performance of alternative investment packages but not of individual projects.

### Measures Track Goals

The project performance measures were developed in the spring of 2003 with input from partner transportation agencies, members of the MTC Advisory Council and other interested stakeholders. The measures correspond with the Transportation 2030 goals and include: collision reduction, seismic safety, system efficiency and reliability, connectivity and access, contributions to clean air, significance for goods movement, support for MTC/ABAG Smart Growth policies, and ability to address the transportation needs of disadvantaged communities.

In the course of the evaluation, MTC looked at a wide range of potential investments, ranging from freeway widenings for new carpool lanes and enhanced transit routes to transit-oriented development projects and pedestrian overcrossings of freeways. Among the projects considered were at least 40 projects proposed by members of the public, who were invited for the first time to submit their project ideas for the regional plan directly to MTC.

The evaluation generated a wealth of information and, in particular, enabled comparison among alternative investments addressing each of the Transportation 2030 goals. A good many of the projects that rose to the top for each goal were ultimately recommended for inclusion in this Transportation 2030 Plan.

### Sharpening the Metrics

With the Transportation 2030 project performance evaluation, MTC has taken a clear first step toward improving its ability to measure the contributions of specific investments toward regional goals. MTC has identified a number of steps to build on the accomplishments to date and sharpen the assessment of potential projects for future long-range transportation plans.

BILL MAEL, CALTRANS

- MTC and partner agencies must consider how to better time the project performance analysis so the results are available when discussions about county and regional investments first get under way. An area that deserves special scrutiny for the next long-range plan is how to use performance measures to evaluate projects before voters have endorsed a project and committed to funding it through a local sales tax measure.
- MTC will focus its analysis resources on a smaller number (perhaps 100) of truly major projects to look at their costs and benefits in more depth. These could include big-ticket items, projects likely to have regionally significant impacts, and investments closely aligned with MTC policy initiatives such as lifeline transportation or coordination between transportation and land use.
- MTC will continue to review emerging practices and analysis tools for evaluating difficult-to-measure goals such as a Reliable Commute and Livable Communities.

See *Project Performance Evaluation Report* (described on page 138), for more information.

# investments

PAUL VIANT/GETTY IMAGES

# investments and actions

Adequate maintenance. System efficiency. Strategic expansion. This trio of themes forms the framework around which we've built the Transportation 2030 Plan. In the following pages, we put flesh on these bones, showing how they translate to investments in specific programs and projects. And, we share our ideas on how MTC together with the Bay Area public and decisionmakers at the local, state and federal levels can take these projects and programs to the next level by mining a new funding source or enacting a new law — or by eliminating an impediment to progress. These "Calls to Action" are captured in the shaded box at the end of each topic.

The fundamental spending choices underlying this chapter were made at the conclusion of the first phase of the Transportation 2030 Plan development process, in December 2003, when the Commission carved the 25-year funding pie into several broad slices and earmarked funding for a series of regionally significant investments that are highlighted here.

A comprehensive listing of transportation projects and programs included in the Transportation 2030 Plan is found in Appendix One. Additional project-level details of these investments are provided in the *Project Notebook,* a companion supplemental report to the Transportation 2030 Plan.

Topping the list of maintenance needs is the rehabilitation or replacement of worn-out transit vehicles and facilities as well as the upkeep of freeways and local roadways. Yet despite a sizable commitment of plan resources, the Bay Area still faces a whopping $17 billion maintenance and operating funding gap over the next 25 years.

The System Efficiency section of this investment chapter stands out for its innovative programs, creative application of intelligent transportation technologies and provocative policy recommendations. Falling into this category are efforts to squeeze more capacity out of the region's existing infrastructure; initiatives to broaden access to mobility for bicyclists, pedestrians, wheelchair users and low-income families; and strategies for protecting the region's open space and environment.

We show how the Transportation 2030 Plan directs $400 million to a variety of regional operations programs, including the TransLink® transit-fare smart card, the 511 Traveler Information System (which delivers real-time traffic information via the phone and Web), and the proven and popular Freeway Service Patrol and call box programs.

Just as we must preserve the Bay Area's transportation assets and take the fullest possible advantage of them, so too must we wisely invest our limited resources to expand the transportation system to accommodate new residents and new jobs. This chapter's section on Strategic Expansion identifies several exciting initiatives, including a call for establishing a network of high-occupancy/toll lanes, whereby solo drivers would help finance expansion of the region's carpool lanes by paying for the opportunity to use them.

## Adequate Maintenance

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# adequate maintenance

## Potholes Ahead — More Local Road Dollars Needed

Local streets and roads are an integral part of the Bay Area's transportation network and represent a huge investment of public resources. One goal of MTC has been to work with cities and counties to identify and manage needed repairs to their local street and road networks. MTC advocates the adoption of preventive maintenance programs as a cost-effective approach to maintaining and extending the serviceability of these networks. Currently, deterioration of the Bay Area's roadways has created large unfunded repair backlogs in a majority of jurisdictions.

MTC is committed to funding and maintaining a Metropolitan Transportation System, or MTS, consisting of freeways and local routes deemed essential to regional mobility. The primary challenge for cities and counties is to adequately maintain their non-MTS streets and roads.

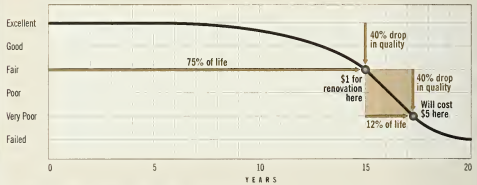
Local street and road needs are divided into two categories:

- Pavement includes rehabilitation or reconstruction of existing roads, plus preventive maintenance to extend pavement life
- Non-pavement includes related roadway maintenance of such items as storm drains, traffic lights, pedestrian walkways, retaining walls, storm damage, curb cuts for wheelchair access, etc.

Local road maintenance is funded from many sources, including: state gas taxes, county sales taxes, and other local sources such as city and county general funds, bonds and traffic fees.

GEORGE DANYO

### Pavement Condition Over Time*

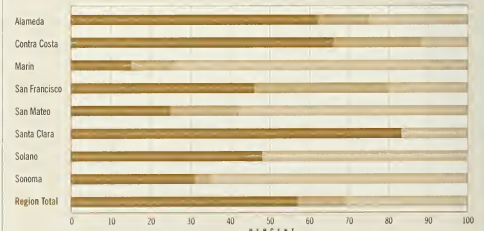



*Pavement wear varies depending on traffic, climate, pavement design, etc.

Source: MTC

### Bay Area Local Street and Road Funding by Source

Data is for years 2005–2029; data for Napa County is unavailable




Source: MTC

Proposition 42, approved by voters in March 2002, dedicates the state sales tax on gasoline to transportation, a portion of which is earmarked for local roads. Unfortunately, due to the state's fiscal crisis, the statute has been repeatedly suspended and the earmarked funds have not yet materialized.

## Transportation 2030 Challenges

- The 25-year pavement/non-pavement maintenance needs for the Bay Area total $16.7 billion. Including funds directed by this plan, projected expenditures over the same period are expected to be only about $10.6 billion (covering just 64 percent of the needs), resulting in $6.1 billion in unfunded needs.

- Experience shows that delayed maintenance leads to even costlier rehabilitation. As shown on the facing page, if it costs $1 to keep a section of roadway pavement in good condition through timely maintenance, it will cost $5 — five times as much — to restore the same roadway if it is allowed to deteriorate to the point where major rehabilitation or reconstruction is needed.

- The magnitude of the road shortfall suggests that maintenance will likely be deferred on some facilities, thus increasing overall costs.

## Transportation 2030 Decision

MTC must strike a balance when determining how much regional funding should go toward local streets and roads compared to other important investments. The Commission has committed $990 million in discretionary funds to close a projected funding gap for rehabilitation (pavement and non-pavement) of MTS streets and roads. This leaves $6.1 billion in non-MTS local streets and roads needs unfunded.

### Road Maintenance Expenditures by Bay Area County, Ranked by Relative Size of Down Payment

Data is for years 2005–2029; dollar amounts in millions

Source: MTC

## Calls to Action

### Strengthen Proposition 42

Approved by 69 percent of voters in 2002, Proposition 42 permanently dedicated gasoline sales tax revenue to transportation, including local roads. This measure is supposed to provide over $1 billion annually statewide, yet transportation projects have not seen a dime because the governor and Legislature have taken advantage of a provision that allows for its suspension. Proposition 42 should be strengthened so that it cannot be routinely suspended to pay for other needs.

### Condition Maintenance Funds

Traditionally, MTC has focused the region's limited maintenance funding on keeping the most heavily traveled local streets and roads in good repair, and the counties with the biggest maintenance funding gaps received the most funding. However, this approach inadvertently penalizes counties that do make a hefty investment in keeping their local road system healthy. To address this unintended result, MTC and its partners should come up with a distribution formula that rewards cities and counties that are putting more local resources into their roadway networks, and have made maximum use of efficiency measures.

### Devote More Local Sales Tax Revenues to Road Maintenance

Most Bay Area transportation sales taxes allocate 20 percent to 25 percent of revenues to the upkeep of local streets. Counties should increase this share to address projected maintenance shortfalls.

### Self-Help for Every County

Cities' and counties' continued reliance on their general funds to finance street rehabilitation is risky, particularly since the general funds are often tapped out by police, fire and other needs. Cities and counties need to look to the voters to approve user charges such as vehicle license fees and fuel taxes to pay for pothole repair.

## Keeping Trains and Buses Humming

Public transit plays a critical role in the Bay Area's transportation system. It provides mobility to people without access to cars, including those who are low-income, elderly or disabled, as well as school-aged children. During the congested commute hours, public transit provides an alternative to driving, which helps reduce the numbers of cars on the roads. As transit funding becomes increasingly scarce, the challenge is to find ways to sustain and maintain today's core transit system. The prudent expenditure of transit operating and capital replacement funds is necessary to balance operating and capital replacement costs with reduced revenues.

### Transportation 2030 Challenges

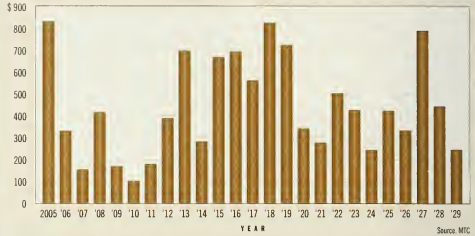
- Operating and capital replacement costs for Bay Area transit providers are projected to total $69.3 billion ($16.2 billion capital and $53.1 billion operating) over the next 25 years. Dedicated revenues over the same period (not including discretionary funding directed by MTC in this plan) are expected to be about $63.9 billion, resulting in $5.4 billion ($4.1 billion capital and $1.3 billion operating) in initial unfunded needs.

- The Commission has decided to give priority to a regional investment in vehicles and fixed-guideway replacement and rehabilitation before funding proposed service expansion.

- As with local streets and roads, delayed maintenance of the transit system leads to even costlier rehabilitation.

**Transit Capital Replacement Costs by Year**

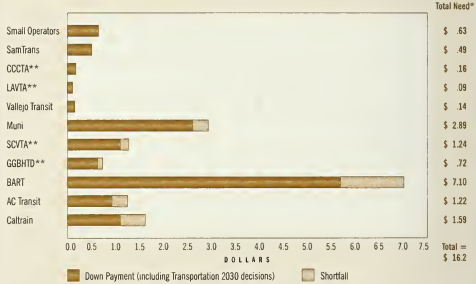
Data is for years 2005–2029; dollar amounts in millions




Source: MTC

**Transit Capital Replacement Costs by Operator**

Data is for years 2005–2029; dollar amounts in billions




* Total transit capital replacement needs are estimated based on data available from each operator at the time of the analysis. Commission policy that directs regional discretionary funding to cover the shortfall may take into account differences in 25-year projected shortfalls and needs identified in the near-term

** CCCTA = Central Contra Costa Transit Authority; LAVTA = Livermore-Amador Valley Transportation Authority; SCVTA = Santa Clara Valley Transportation Authority; GGBHTD = Golden Gate Bridge, Highway and Transportation District

Source: MTC

- BART has by far the largest transit capital replacement need ($7.1 billion) of any Bay Area transit operator, accounting for nearly 44 percent of the region's total transit capital replacement need over the next 25 years. Due to its high ridership and extensive track mileage, BART also attracts considerable capital replacement funds for the Bay Area under federal law. Even with a $5.7 billion down payment on BART's need (including funds directed by MTC in this plan), BART is facing a $1.4 billion capital replacement shortfall. This comprises 50 percent of the net transit

**"AS TRANSIT FUNDING BECOMES INCREASINGLY SCARCE, THE CHALLENGE IS TO FIND WAYS TO SUSTAIN AND MAINTAIN TODAY'S CORE TRANSIT SYSTEM."**

capital replacement shortfall, after action by MTC (see "Transportation 2030 Decision" below).

- Transit operating shortfalls will need to be managed through system efficiencies and revenue enhancements.

- Improved maintenance alone will be insufficient to meet the transit needs of a growing Bay Area. Increased service levels are needed to boost transit ridership and accommodate future population growth.

## Transportation 2030 Decision

The Commission earmarked $1.3 billion of Transportation 2030 revenues for transit capital expenses. This $1.3 billion, added to $12.2 billion already committed to that purpose, covers about 75 percent of the need, leaving an unfunded transit capital replacement cost for all operators of $2.8 billion.

## Calls to Action

### Condition Capital Replacement Funds

MTC commits funding for transit operating and capital purposes based on the transit operators' shortfall levels. This results in transit operators with the largest shortfalls receiving the highest levels of discretionary Transportation 2030 funding. MTC will work with the transit operators to find innovative and equitable ways to condition capital replacement funds, so that all agencies take responsibility for making adequate investments to operate and maintain the transit system.

### Extend Useful Life and Reprioritize Capital Replacement

Bay Area transit operators must work towards extending the life of their bus and rail vehicles, thus getting more mileage from the fleet before purchasing new capital assets. There may be cases where maintenance and service facilities could be more fully utilized to fix and maintain the existing stock, reducing the capital replacement shortfalls.

### Dedicate Sales Tax Funds to Transit Operations and Maintenance

Because transit is a cornerstone of the Bay Area transportation system, expenditure plans for local transportation sales taxes should include funds for transit operations and capital replacement as well as transit expansion projects.

### Functionally Consolidate or Institutionally Merge Transit Operators

While there is no "ideal" number of transit operators for our nine-county region, having some two dozen separate operators clearly complicates the task of providing a seamless regional transit system. The region should seriously evaluate the benefits and costs associated with merging transit agencies and consolidating functions to improve cost-effectiveness and service design. This evaluation is currently under way for the bus services in the suburban East Bay. Functional consolidation would pool limited funds, promote uniform fares and provide more responsive regional service. It also offers potential economies of scale in terms of joint purchases, maintenance facilities, marketing and customer services. Napa County's 2001 merger of its six operators into a single countywide operation could serve as a successful model for merging bus operations in other suburban areas. Significantly, voter-approved Regional Measure 2 requires a study of regional rail operators — including BART, Caltrain, Altamont Commuter Express and the Capitol Corridor rail service — and consideration of options from functional consolidation to an institutional merger.

### Challenge BART to Go to the Voters — Again

Voters in Alameda, Contra Costa and San Francisco counties said yes to a property tax increase on the November 2004 ballot to seismically strengthen the Transbay Tube, stations and elevated tracks. Since BART's capital needs are the largest among Bay Area operators, the agency may need to place a second bond measure on the ballot at a future date to deal with its unfunded $1.4 billion capital replacement needs.

## State Highways Showing Their Age

The State Highway System is one of California's most valuable transportation resources. It is the foundation on which the vitality of California's economy is built, linking people and goods with growing urban centers and major international ports.

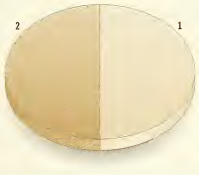
Much of the State Highway System was planned, designed and built in the 1950s through the 1970s, and some of it has never been rehabilitated. Not only have these facilities aged beyond their design life, they have been subjected to more truck and auto traffic than originally assumed. This combination of age and increased usage has caused faster rates of pavement deterioration, concentration of accidents and increasingly longer travel times.

State law requires Caltrans to prepare a 10-year State Highway Rehabilitation Plan for all state-owned highways and bridges. An increased emphasis on safety and roadway rehabilitation is reflected in the 2004 SHOPP (State Highway Operations and Protection Program), with the goal of reducing fatal and injury accidents and the number of miles of distressed pavement. Other goals include easing congestion through operational improvements, restoring highway planting and fixing rest areas.

### Transportation 2030 Challenges

- As illustrated in the pie chart on page 45, Bay Area SHOPP needs over the 25-year life of the 2030 Plan total about $14 billion, while projected revenues over the same period are expected to cover only $7 billion, resulting in $7 billion in unfunded needs.
- The Commission has not yet identified any new funding sources for the $7 billion in unfunded SHOPP needs in Transportation 2030. The state will need to tap into its existing or new resources to pay for this shortfall.
- The magnitude of the state highway rehabilitation shortfall suggests that maintenance may have to be delayed on some highways, thus increasing overall road repair costs.

### Projected State Highway Maintenance Needs 2005–2029




| | | |
|---|---|---|
| 1 | Funds Available | $7 billion |
| 2 | Unfunded | $7 billion |
| | **Total Need** | $14 billion |

Source: Caltrans

- Insufficient funds to maintain system management equipment like traffic detection sensors, ramp meters, changeable message signs, and other incident-management programs will result in lost opportunities to ease congestion.

- Investments must be made to address serious bottlenecks and close gaps in our highway system. These additional lanes will require additional maintenance and more funding.

> "MUCH OF THE STATE HIGHWAY SYSTEM WAS PLANNED, DESIGNED AND BUILT IN THE 1950s THROUGH THE 1970s, AND SOME OF IT HAS NEVER BEEN REHABILITATED."

## Calls to Action

### Index the State Gas Tax to Inflation

It is long past time for the Legislature to increase the state gasoline tax. Since it was last raised in 1990 (from 9 cents to 18 cents per gallon), the gasoline tax has lost 25 percent of its value to inflation (see graph on facing page). Today, California's gas tax is lower than that of 36 other states, and is below the national average of 20.4 cents per gallon. At the very least, the state gas tax should be indexed to inflation — as it is in 11 other states — so that the gas tax would increase in direct proportion to the rate of inflation.

### Increase Truck Weight Fees

Heavy trucks cause serious damage to pavement. Proceeds from truck weight fees levied by the state that are deposited into the State Highway Account for road repair and maintenance no longer are sufficient to repair truck-related damage to our highways. The state must re-evaluate the existing truck weight fee structure and increase fees to reflect the true cost of highway repair — perhaps by considering distance-based fees that also factor in how far a truck travels on our state highways.

### Top 10 Urban Areas With Unacceptable Ride Quality on Highways and Arterials

| Urban Area | Percentage Unacceptable |
|---|---|
| Kansas City | 71% |
| San Jose | 67% |
| St. Louis | 66% |
| Los Angeles | 64% |
| San Francisco-Oakland | 60% |
| San Diego | 58% |
| New Orleans | 55% |
| Boston | 49% |
| Sacramento | 48% |
| Oaklahoma City | 47% |

Source: The Road Information Program (TRIP) analysis of 2003 Federal Highway Administration data

### Trim the STIP to Support the SHOPP

Without an increase in revenues to maintain the state highway system, the state will be faced with deferring more and more of its maintenance needs. More dollars may need to be diverted to state highway maintenance needs, which are funded through the State Highway Operations and Protection Program (SHOPP). Unfortunately, this will leave less state funding available for new road and transit projects in the State Transportation Improvement Program (STIP).

# system efficiency

## Squeezing Better Mileage From the Existing Network

The effort to make Bay Area travel easier and more convenient stretches across multiple jurisdictions, requiring MTC to work in concert with many other agencies to ensure not only that each piece of the regional transportation system works as efficiently as possible, but that the components mesh smoothly to create a unified network. The Regional Operations Program encompasses:

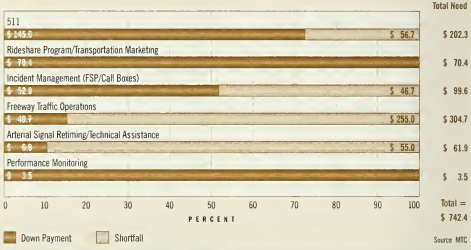
- 511 traveler information (511 Traffic, 511 Transit, Regional Rideshare Program, transportation marketing)
- Incident management, including Freeway Service Patrol (FSP), call boxes, emergency vehicle preemption of traffic signals
- Traffic operations, including Caltrans' Regional Transportation Management Center, smart corridors, center-to-center data exchange, coordination of traffic signals across city boundaries, etc.
- Transit operations, including transit automatic vehicle location systems, priority at traffic signals, express bus services, etc.
- Technical assistance for cities and counties (pavement management, traffic engineering)
- Performance monitoring
- TransLink® (discussed separately on page 60)

**Better Roadway Management Yields Multiple Benefits**

Sources: Minnesota Dept. of Transportation, U.C. Berkeley

**Funding for Bay Area Regional Operations Program, 2005–2029**

In millions of dollars




Source: MTC

The Regional Operations Program will improve the efficiency of the existing regional transportation system. For example, ramp metering and traffic signal retiming have been shown to produce measurable benefits for motorists (see graph above). And the roving tow trucks of the Freeway Service Patrol save Bay Area travelers some 4.5 million hours of delay per year, returning $8.20 in benefits for every $1 of cost. On the transit side, AC Transit's Rapid Bus program on San Pablo Avenue has decreased travel time by 14 percent and has increased peak-period ridership by 66 percent; moreover, 19 percent of the new riders previously made the trip by car.

## Transportation 2030 Challenges

- Full deployment of the Regional Operations Program is expected to cost about $742 million over 25 years, yet projected revenues over this period total only $329 million, or slightly more than 44 percent of anticipated needs.
- MTC's long-term vision for freeway traffic operations includes real-time monitoring of speed and volume on all

freeways, increased management of congestion through message signs and ramp meters, and automated data exchange (including radio between jurisdictions on all freeways). Given limited funding, this vision likely will be implemented only on the most congested freeways.

- An aggressive deployment of new technologies would maximize the Bay Area transportation network's efficiency by: improving data collection for 511 (including driving times for carpool lanes and arterial streets as well as mixed-flow freeway lanes); making available multilingual phone and Web options for all travel information; and improving congestion management through enhanced traffic-flow monitoring and real-time communication with motorists.

- Expansion of the Freeway Service Patrol (with new weekend, midday and morning service hours) would enhance both congestion management and incident response.

## Transportation 2030 Decision

In the Transportation 2030 Plan, MTC will add $271 million to the $58 million previously committed to fund core programs benefiting the entire region. This includes 511, the regional rideshare program, transportation marketing, freeway operations, incident management and funding for three years of regional signal timing and technical assistance. However, full deployment of the Regional Operations Program will require an additional $413 million to sustain and enhance the existing programs.

## Calls to Action

### Increase Vehicle Registration Fee for Incident Management

The successful Freeway Service Patrol program is partially funded through a $1 assessment on vehicle registrations. Since accidents, stalls, spilled debris and other incidents account for up to 50 percent of traffic congestion, doubling the assessment to $2 would provide additional dedicated funding for programs to reduce incident-related traffic delays.

### Give Bay Area Freeways a High-Tech Edge

Real-time information on traffic conditions throughout the Bay Area freeway system is essential to Caltrans' and the CHP's ability to immediately summon the right type of assistance (e.g., tow truck, ambulance, etc.) to where it is needed, and to inform travelers of the danger ahead. Sufficient State Highway Account funding must be dedicated for better operation of the existing freeway system.

### Implement Freeway Metering Lights

Traffic lights at freeway on-ramps are a proven and effective way to reduce freeway delays and increase freeway volumes. Recent studies have documented that local streets flow better after metering is implemented. Objections from a few cities about "spillover" traffic on local streets must be overcome so that the regional interest in reducing freeway congestion can prevail.

### Improve Arterial Operations

Many arterials throughout the Bay Area are routinely congested. Retiming the traffic signals is a cost-effective way of minimizing normal peak-period congestion for cars and buses, especially where major roads pass through several cities. "Smart Corridors" enable cities to quickly respond to major traffic fluctuations (e.g., traffic that is diverted onto city streets from a nearby freeway after a major collision; congestion after a sporting event, etc). To ensure efficient operation of the arterial portion of the regional transportation system, the Bay Area must provide a stable source of operating funds.

### Clear Incidents Quickly

Incompatible radio systems and conflicting institutional priorities among the CHP, local police and fire departments, and other agencies can result in chaotic responses to major highway accidents and needless delay in reopening the lanes to traffic. Communications is essential to teamwork, and the Bay Area must commit itself to the goal of having all first responders able to communicate with each other.

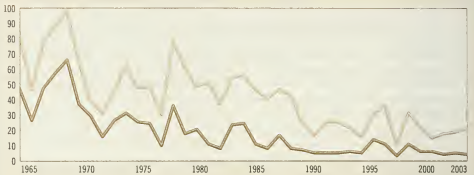
## Clean Air in Motion

The Bay Area has some of the cleanest skies of any metropolitan area in the United States. Regional air quality has steadily improved, due in large part to cleaner motor vehicles and fuels, and reduced emissions from industrial and commercial sources. The number of days on which ozone levels exceed state and federal standards has fallen dramatically. But more progress is needed to ensure healthy air quality every day. While the Bay Area meets the federal one-hour ozone standard, the region currently does not meet either the state's more stringent one-hour ozone standard or the federal government's newer eight-hour standard.

Many different sources contribute to air pollution. Stationary sources such as factories, power plants and dry cleaners; mobile sources such as cars, buses, planes, trucks and trains; and naturally occurring sources like windblown dust all contribute to air pollution. Among the principal pollutants considered harmful to people and the environment are the following.

- Ozone is a gas formed by a chemical reaction between oxides of nitrogen ($NO_X$) and volatile organic compounds (VOC) in the presence of heat and sunlight. "Good" ozone occurs naturally about 10 to 30 miles above the earth, while "bad" ozone forms in the earth's lower atmosphere (ground-level). Motor vehicle exhaust, industrial emissions, gasoline vapors and chemical solvents are some of the major sources of $NO_X$ and VOC that help to form ozone. Sunlight and hot weather cause ground-level ozone to form in harmful concentrations in the air, which is often referred to as summertime smog.

**Annual Exceedances of the National and State One-Hour Standards For Ozone in the Bay Area**




- Particulate Matter (PM) includes dust, dirt, soot, smoke and liquid droplets found in the air. Particles can be suspended in the air for long periods. Some particles are directly emitted into the air from sources such as cars, trucks, buses, factories, construction sites, tilled fields, unpaved roads and burning wood. Others may be formed through chemical change of gases such as when gases from burning fuels react with sunlight and water vapor, or when fuel combusts in motor vehicles. Serious health problems may arise from breathing particulate matter.

- Carbon monoxide (CO) is a colorless, odorless gas formed when carbon in fuel is not burned completely. CO is a component of motor vehicle exhaust, which contributes about 56 percent of all CO emissions nationwide. Non-road engines and vehicles (such as construction equipment and boats) contribute about 22 percent of all CO emissions nationwide. Areas with heavy traffic congestion generally have higher levels of CO.

- Carbon dioxide ($CO_2$) is a major component of the carbon cycle, and results from the combustion of organic matter if sufficient amounts of oxygen are present. $CO_2$ also is produced by various microorganisms in fermentation and cellular respiration. It is present in the Earth's atmosphere at a low concentration and acts as a greenhouse gas.

### Transportation 2030 Challenges

MTC, along with the Bay Area Air Quality Management District (BAAQMD) and the Association of Bay Area Governments (ABAG), prepares and implements plans to achieve the ozone standards. The most recent plan for the state standard is the 2000 Clean Air Plan, and the most recent plan for the national standard is the 2001 Ozone Attainment Plan. Each plan includes measures to reduce emissions of ozone precursors from a variety of sources.

The Draft 2005 Bay Area Ozone Strategy, which is currently being prepared by MTC, the Air District and ABAG, is the update to both these plans. The Draft 2005 Ozone Strategy will include a triennial revision to the Bay Area's strategy to attain the California state one-hour ozone

standard. Stationary, mobile and transportation control measures are key features in the Draft 2005 Ozone Strategy.

The Bay Area already attains both federal and state standards for carbon monoxide. Efforts to attain the standards for particulate matter will be the subject of future air quality planning exercises. Responsibility for $CO_2$ control lies with the California Air Resources Board (CARB). Because CARB's strategy for reducing motor vehicles' $CO_2$ emissions emphasizes the use of hydrogen fuel cells, these solutions are likely to reduce transportation revenues generated by taxes on gasoline and diesel fuel.

## Transportation 2030 Decision

The Commission in December 2003 adopted a new clean air goal for the Transportation 2030 Plan. The key objectives include: (1) achieve additional reductions in motor vehicle emissions through effective transportation control measures; (2) work with the Air District to develop new episodic control strategies for predicted high-ozone days; and (3) help reduce particulate matter from buses and other heavy duty vehicles.

The Commission also committed $36 million toward a comprehensive program to improve Bay Area air quality, which is to be leveraged with $240 million from the Air District's Transportation Fund for Clean Air.

## Calls to Action

### Spare the Air!

Established in 1991, the Air District's Spare the Air program is focused on educating the public and promoting changes in behavior that help prevent poor air quality. A Spare the Air day is a day forecast to have ozone levels high enough to exceed federal health-based standards. MTC, the Air District and ABAG, along with our partners, should deploy focused and specific strategies to reduce emissions on Spare the Air days. In particular, MTC will replicate its successful 2004 pilot Free Morning Rides program with BART and LAVTA and expand the program to all public transit operators in the Bay Area during the 2005 ozone season.

### Scrap the Oldest, Most Polluting Cars

The Air District's Vehicle Buy-Back Program pays $650 for operating and registered vehicles from 1985 and earlier. These cars are then scrapped by dismantlers under contract to the Air District. MTC, the Air District and other partners will find ways to supplement this voluntary program with additional federal funds.

### Reduce Particulate Matter from Buses/Heavy Duty Vehicles

The Environmental Protection Agency's (EPA) emission standards for post-1994 manufactured diesel trucks and buses have resulted in a 90 percent reduction in emissions of particulate matter. Older trucks and buses should be retrofitted with particulate traps to reduce emissions. EPA should continue to work with manufacturers to further reduce emissions from diesel engines, including non-road engines such as those found on construction equipment. MTC, the Air District and ABAG, in consultation with EPA, will find ways to further reduce particulate matter through new funding assistance programs, similar to MTC's $14 million program to retrofit 1,700 diesel buses operated by 12 Bay Area transit agencies.

### Retrofit 1980–1994 Automobiles

The California Air Resources Board (CARB) has developed a program to replace the evaporative canister in middle-aged to older cards in order to evaluate the reduction of emissions. In a pilot program that could supplement CARB's testing, MTC plans to fund a similar replacement in 1980-1994 passenger vehicles.

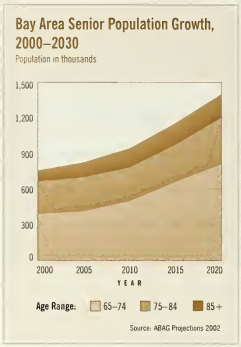
## Broadening Access To Mobility

Central to a good quality of life is the ability to get to and from work, school, medical appointments, shopping areas, recreational sites and other destinations. In addition to highways, and local streets and roads, the Bay Area has an extensive array of public transit services and programs intended to address the needs of all residents. But the current system does not always meet the mobility needs of people with disabilities, frail elderly people and some low-income residents. These people need better mobility options. Identifying and implementing the necessary improvements will require the joint efforts of regional and local stakeholders.

MTC and its partners are leading the way to expand mobility for those whose transportation options are limited due to age, disability or income. In December 2003, MTC began seeking ways to stimulate creative, collaborative, cost-effective transportation solutions for older adults, the disabled, low-income residents and youths. As a first step, agency staff convened a task force comprised of representatives from transit agencies, community-based organizations, advocacy groups and other stakeholders to discuss how best to plan for and deliver expanded services that are convenient, safe, affordable and accessible to and from key destinations. The Access to Mobility effort is aimed at the following groups.

### Older Adults

As people age, they increasingly face limitations on their ability to drive or use fixed-route transit. In 2000, there were some 760,000 persons aged 65 and older in the nine-county Bay Area (see graph above).



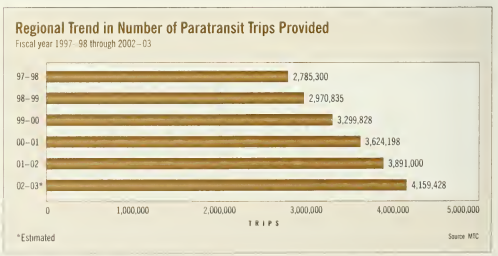

By the year 2020, the number of people in this age group will increase by 84 percent to 1.4 million. And the number of people age 85 or older, the group with the most severe mobility problems, will grow by 108 percent during this time.

### Persons With Disabilities

Since the passage of the Americans With Disabilities Act (ADA) in 1990, transit agencies and local jurisdictions have taken numerous steps to ensure their services and programs are accessible for persons with disabilities. These include providing paratransit service that is complementary to fixed-route transit service for use by people whose disabilities prevent them from riding fixed-route transit. In all nine Bay Area counties, public paratransit programs have expanded greatly since full compliance was achieved in 1997 (see graph below), and are likely to carry even more riders as the population ages. MTC will seek to broaden access to transportation for persons with disabilities by better coordinating resources among social service and transportation providers and interest groups.

### Youth

School-provided bus services have all but vanished in the last 30 years in the Bay Area. While public transit agencies in the region have attempted, with varying success, to fill this school transportation gap, the decline of the "yellow school bus" is creating serious problems for parents, children, communities, schools and transit agencies. The geographically dispersed nature of the childcare system — featuring mostly small-scale providers spread throughout residential neighborhoods — often results in complex, time-consuming trips for families that rely on public transportation, and increased driving demands on parents with cars. The need to provide safe, convenient and affordable transportation for children to and from



childcare has emerged as key in welfare-to-work and other related planning studies.

## Low-Income Persons

The Commission has developed a Lifeline Transportation Program to specifically address the needs of low-income individuals (see pages 52–55).

## Transportation 2030 Challenges

- Responsibility for the transportation of low-income persons, youth, seniors and persons with disabilities is often shared among transportation and social service agencies. Many state and federally funded programs provide transportation for low-income persons, seniors and persons with disabilities, including health, job-training and senior programs. Removal of institutional, regulatory and funding restrictions could promote enhanced coordination among the various entities, thereby gaining more productivity out of each dollar spent.

- Land-use decisions need to support development of affordable housing with universally-designed units for use by disabled residents. Housing should be near transportation services and take into account access to essential destinations, such as grocery stores, daycare centers, medical offices, etc. When new social service facilities are sited, agencies need to consider their accessibility by public transit and wheelchair, as well as auto, bicycle and pedestrian access.

- Additional planning is needed to quantify the transportation needs and service shortfalls for these groups so that planners and policymakers can make informed decisions based on reliable data and relevant demographic information.

## Calls to Action

### Remove State-imposed Barriers

MTC, transit agencies and local jurisdictions will seek legislative or regulatory changes at the state level to address key barriers to coordinated transportation programs. These include the difficulty and cost of obtaining insurance for low-income persons and transportation providers alike, funding restrictions specific to state or federal programs, and the lack of available data on social service agencies' transportation expenditures.

### Loosen Medicaid Restrictions

MTC will continue to advocate for regulatory changes to allow Medicaid to pay for non-emergency medical trips.

### Enhance Local Demographic Information

Presently, we lack a comprehensive profile of transit riders in terms of factors such as ethnicity/race, income status, age and auto ownership. More consistent and timely data would provide planners and policymakers with tools to better assess the needs of low-income and minority transit riders, and thus better inform future funding actions. MTC and transit operators will take steps to improve the ways we collect, compile and disseminate basic demographic and travel data for various Bay Area population groups.

### Fine-tune TLC and HIP

MTC will encourage applicants for funding through its Transportation for Livable Communities (TLC) and Housing Incentive Program (HIP) initiatives to address specific mobility barriers faced by persons with disabilities or older adults.

### Think Beyond the Bike

Regional and local bicycle/pedestrian planning efforts must consider and fund projects that make paths of travel to fixed-route transit services accessible and usable by older pedestrians and persons using wheelchairs or other mobility aids.

### Identify Strategies for Enhanced Use of Taxis

Enhanced taxi services, such as guaranteed-ride-home or voucher programs, have been identified as potential solutions through community-based and welfare-to-work planning, as well as in efforts to address the mobility needs of older adults and persons with disabilities. However, taxi service is limited or not available at all in some rural or suburban communities, and most taxi vehicles are not wheelchair accessible. MTC and its partners should identify strategies to better utilize this important mode of transportation.

## Providing a Transportation Lifeline

MTC must consider the needs of all travelers in striving for an equitable distribution of mobility benefits. Whether the destination is work, school or the doctor, all Bay Area residents — regardless of income, age or disability status — must be able to get from place to place. Yet many low-income households in the Bay Area can't afford to own and operate one car, let alone the two vehicles that middle-class families often consider essential. It was with this population in mind that MTC began working to identify a network of critical transit routes and other transportation services that provide a vital lifeline for low-income residents.

Included in MTC's 2001 Regional Transportation Plan was a *Lifeline Transportation Network Report,* which identified existing transit routes most critical to meet the needs of low-income neighborhoods. At the time the report was completed, nearly half (43 percent) of all routes operated by 19 transit operators within the region were identified as Lifeline routes. The report also identified gaps — both spatial and temporal — that prevent full access to services that people need, and recognized that solutions to address these gaps must be developed and planned for at the local level. The report pointed to a wide variety of transportation solutions beyond traditional fixed-route transit, based on those most appropriate to the community's needs.

MTC has taken the following steps to advance the region's understanding of transportation issues specific to low-income communities.

### Community-Based Transportation Planning Program

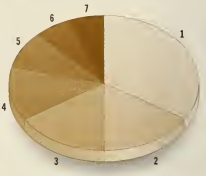
Both the *Lifeline Transportation Network Report* and the *Environmental Justice Report* for the 2001 Regional Transportation Plan recommended community-based transportation planning as a first step to address gaps and barriers faced by low-income communities. MTC initiated this program in 2002, and identified 25 communities as subjects for these plans. To date, five such plans have been completed, and MTC anticipates completion of the remaining plans within the next two to three years. Led by county congestion management agencies in consultation with community-based organizations and MTC, the plans also inform county transportation decisions, including transportation sales tax expenditure plans.

Potential transportation improvements are identified to address gaps specific to each low-income community. Solutions may include expanding fixed-route transit, children's shuttles, vanpool services, or car share or other auto-related projects. In some cases, new capital improvements such as bus stops, benches, shelters or other enhanced amenities are called for.

### LIFT (Low Income Flexible Transportation) Program

Recognizing that there is no one solution to filling the gaps in the existing transportation network for low-income communities, MTC launched the LIFT Program to support a wide range of transportation services. LIFT funds have been used to create new and expanded public transit services, children's shuttles, auto-loan programs, rideshare activities and guaranteed-ride-home programs (see pie chart above).

**Types of LIFT Projects**
Total: 32 Projects

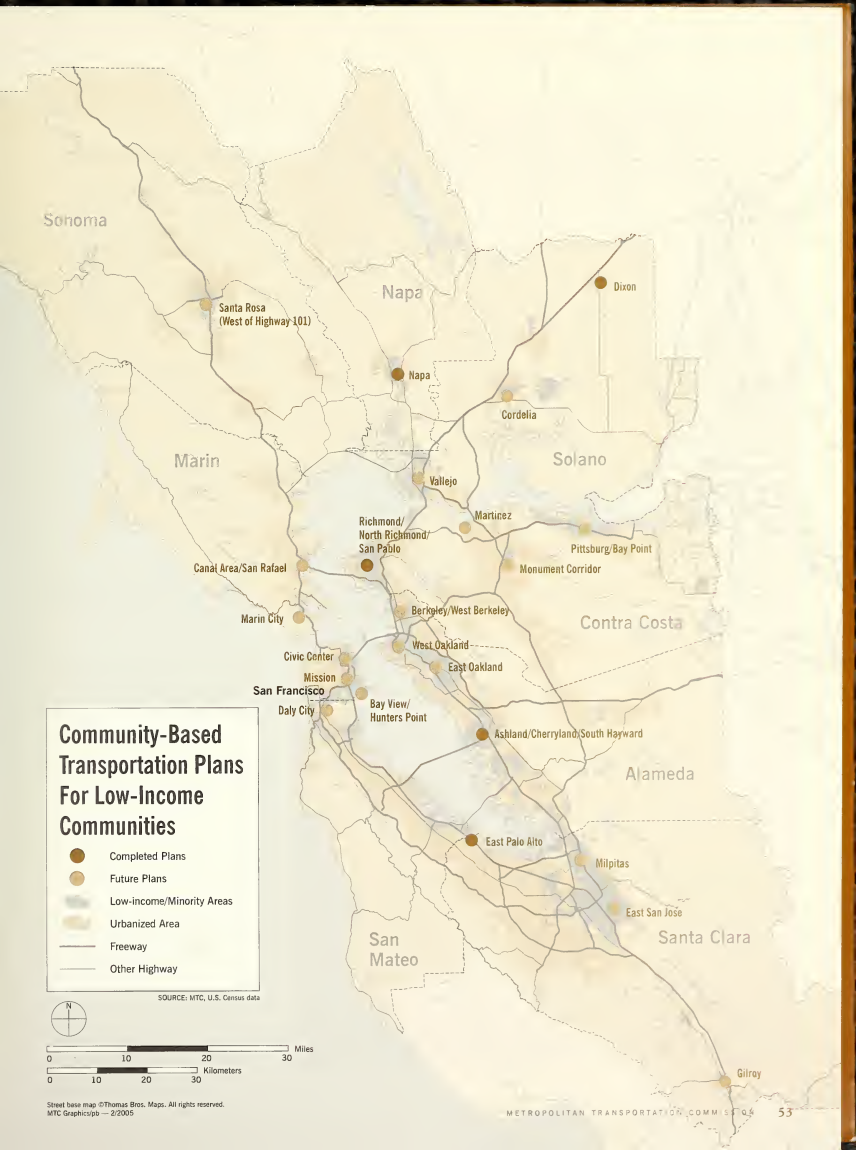



| | | Percent of Total |
|---|---|---|
| 1 | Fixed-Route Transit | 34% |
| 2 | Children's Shuttle | 16% |
| 3 | Shuttles/Demand Response | 16% |
| 4 | Guaranteed Ride Home | 13% |
| 5 | Mobility Manager | 9% |
| 6 | Fare Assistance | 6% |
| 7 | Auto Programs | 6% |

Source: MTC

The LIFT Program began in 2000 and has been funded with a variety of federal, state and local transportation dollars, as well as additional social service matching funds, bringing the total investment for this program to nearly $21 million. To date the LIFT program has provided support to 32 creative transportation solutions in all nine Bay Area counties.

The LIFT Program encourages a collaborative approach to addressing the transportation challenges faced by residents of Bay Area low-income communities, including low-income elderly and disabled residents. Transit providers work closely with social service agencies, community-based organizations and other key stakeholders to make a difference in the lives of low-income Bay Area residents.

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## Transportation Spending Study

The cost of transportation is often a significant barrier for low-income individuals in getting to school, work or other essential destinations. MTC and the Public Policy Institute of California (PPIC) collaborated to study travel patterns and transportation costs for low-income persons of employable age for work and training purposes. The report, *Transportation Spending by Low-Income California Households: Lessons for the San Francisco Bay Area* was published under the auspices of PPIC in July 2004, and identified the following key findings.

- Transportation is the third-largest budget item (after housing and food) for low-income households in California's metropolitan areas.
- Low-income households allocate a slightly smaller proportion of household expenditures to transportation than do other households.
- Cost appears to be a barrier to vehicle ownership among low-income households in the Bay Area.
- Cost is unlikely to be a barrier to transit use for most low-income households but may be a barrier for some.
- Low-income commuters are less likely than other workers to drive alone and more likely to carpool, walk or travel by bus.
- Low-income workers have somewhat shorter commute times than other workers.

## Transportation 2030 Challenges

- Additional community-level planning is needed to quantify transportation needs and service shortfalls for low-income residents so that planners, practitioners and policymakers can make informed decisions based on reliable data and relevant demographic information. Taking these steps will help establish clear objectives for the region's investments, and define desired outcomes, performance and evaluation measures.

- Recommendations will be forged over the next few months for the use of funds dedicated to Lifeline transportation services. MTC and program stakeholders must consider strategies, such as requiring matching funds, to expand the Lifeline Transportation Network. Guidelines also should be established to improve project sustainability by determining how most effectively to build long-term commitments using the seed money from LIFT and other funding programs.

## Transportation 2030 Decision

The Commission committed $216 million to create a regional Lifeline Transportation Program for residents of low-income communities throughout the Bay Area. The program's objectives include better identification of gaps in transit service, affordability and safety; closer coordination with other agencies to improve the transportation options for low-income communities; and securing adequate resources to respond to Lifeline mobility needs.

## Calls to Action

### Finish What's Been Started

County congestion management agencies, in concert with MTC and community organizations, must complete all 25 of the Community-Based Transportation Plans identified in the 2001 *Lifeline Transportation Network Report*.

### Target New Lifeline Funding

New Lifeline funding is intended to improve mobility for residents of low-income communities and, more specifically, to fund solutions identified through the community-based transportation plans. Each community's needs are unique and will therefore require different solutions to address them. MTC staff will work closely with local transportation service agencies and other stakeholders to craft a proposal to direct new funding, and to identify potential opportunities to increase the funding of Lifeline-related projects.

### Put Local Dollars to Work

Cities and counties must ensure that needs assessments and recommended strategies emerging from key regional and local planning efforts are included in local sales tax programs and other local planning and funding efforts.

### Identify Strategies to Increase Access to Autos

Automobiles can greatly improve mobility for low-income households, especially those with children requiring transportation to school or day care. However, only two-thirds of California's low-income households own cars, compared to 90 percent of other California households. Further research is needed to ascertain what it costs to own and operate a vehicle, the types of vehicles low-income persons own, and barriers that prevent access to cars (lack of insurance, difficulty in obtaining a driver's license, costs for purchasing a car, etc.). MTC and its partners also will seek to identify legislative, programmatic or regulatory remedies to pursue in order to improve access to automobiles.

### Make the Land-Use Connection

Land-use strategies developed by local jurisdictions must address low-income transportation planning issues, including the linking of affordable housing to transit facilities.

### Make a Federal Case

Several Lifeline transportation initiatives receive funding through the federal Job Access and Reverse Commute Program (JARC). MTC will advocate for increased JARC funding to metropolitan areas on a formula basis.

## Walk and Roll!

Walking and bicycling are two important means of mobility in the Bay Area. Laying sidewalks for pedestrians and wheelchairs, striping bicycle lanes, installing bicycle parking at transit stations and building multi-use trails boost the convenience and utility of these modes of travel, and enhance a community's health and well-being.

Quantifying the needs of pedestrians, bicyclists and wheelchair users is a difficult task. And the cost of building a complete bicycle and pedestrian network remains unknown. The regional bicycle network identified in MTC's Regional Bicycle Plan has a rough estimated cost of $1 billion. But this network includes only regionally significant routes selected from countywide bicycle plans. Total projected costs rise to $1.5 billion when full buildout of the countywide bicycle plans is added to the Regional Bicycle Plan. MTC will soon complete a regional pedestrian plan to identify needs and associated costs for improvements to pedestrian facilities regionwide.

Despite the uncertainty over the ultimate price tag for Bay Area bicycle and pedestrian facilities, it is clear that available resources fall far short of meeting the region's needs. Nonetheless, the region is making significant strides. In addition to MTC's first-ever funding commitment for a regional bicycle and pedestrian program (see page 58), Alameda, Santa Clara and San Francisco counties have committed close to $240 million in transportation sales tax funds for bicycle and pedestrian needs. The sales tax measures passed by Marin, Sonoma, Contra Costa and San Mateo counties in November 2004 added another $160 million. As well, an estimated $245 million in traditional funding sources is available for nonmotorized needs over the next two decades. These sources include the Transportation Development Act, the Transportation Fund for Clean Air, the Bicycle Transportation Account, and Transportation Enhancement Funds.

**Funding Available for Bicycle and Pedestrian Needs, 2005–2029**

Dollar amounts in millions

Source: MTC

> **"THE COST OF BUILDING A COMPLETE BICYCLE AND PEDESTRIAN NETWORK REMAINS UNKNOWN, YET IT IS CLEAR THAT AVAILABLE RESOURCES FALL FAR SHORT OF MEETING THE REGION'S NEEDS."**

### Transportation 2030 Challenges

- The Regional Bicycle Network consists of over 1,500 miles of bicycle paths, lanes and routes, including facilities from each county's bicycle master plan and the entire Bay Trail. Upon completion of this network, over two-thirds of the Bay Area's residents will be within a half-mile of a Regional Bicycle Network route.

- The need for pedestrian facilities (sidewalks, pedestrian signals, marked crosswalks, wheelchair-accessible curb cuts, etc.) exists in every neighborhood. But there is insufficient funding to address these demands. To prioritize the myriad needs — and help develop a regional pedestrian plan — MTC proposes to focus on projects that improve access to transit, schools and regional activity centers.

- MTC's Regional Bicycle and Pedestrian Program will fund eligible projects that are part of the Regional Bicycle Network, which supports access to schools, transit stations and regional activity centers.

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JOYCE PENA

## Transportation 2030 Decision

The Commission in December 2003 dedicated $200 million over 25 years for bicycle and pedestrian improvements throughout the Bay Area, including portions of the Regional Bicycle Network. In addition, the Commission approved a $27 million annual commitment to the Transportation for Livable Communities/ Housing Incentive Program (TLC/HIP), which funds the planning and construction of bicycle, pedestrian and transit access projects to revitalize the region's downtowns and diverse neighborhoods.

## Calls to Action

### Address Nonmotorized Transportation Needs

Bicyclists, pedestrians and wheelchair users must be full partners in the planning process, and bicycle facilities and walkways must be considered, where appropriate, in conjunction with all new construction and reconstruction of transportation facilities. Project sponsors must also consider safety and contiguous routes for bicyclists and pedestrians. These actions greatly reduce the future cost of retrofitting facilities for nonmotorized travelers, and encourage safe and convenient bicycling or walking. MTC will monitor routine accommodation of nonmotorized transportation needs in its programming processes.

### Support Safe Routes to School Programs

MTC and its partners support California's Safe Routes to Schools Program, which has been extended until 2008 on a pilot basis under recently signed legislation. This program has proven to be an effective way to reduce peak-hour congestion near schools and create hospitable walking and bicycling environments for children. In addition, the reauthorization of the federal surface transportation bill may include funds for a new national Safe Routes to School program.

### Develop More Comprehensive Data on the Amount of Walking and Bicycling

Presently, we lack good, comprehensive information on the amount of walking and bicycling that occurs and, in particular, where it occurs. Collision statistics collected by the California Highway Patrol and local law enforcement present an incomplete picture of safety, since there tend to be more cyclists and pedestrians (and more collisions) in areas such as university and school environments and downtown districts. By the same token, cyclists and pedestrians often avoid intersections and roadways they perceive to be unsafe. More comprehensive information on pedestrian and bicycling activity by geographic locale is required to better target investments addressing the mobility and safety needs of pedestrians and cyclists.

### Support Walk- and Bike-friendly Transportation Sales Tax Measures

When developing transportation sales tax measures, counties should consider more funds for nonmotorized travelers. Most allocate about 2 percent to 5 percent of sales tax revenues to bicycle and pedestrian facilities. In some counties, this may not be sufficient to address the needs of bicyclists, pedestrians and wheelchair users. We therefore urge counties to work with local and regional bicycle coalitions and pedestrian safety groups to ensure that their local transportation sales tax expenditure plans devote sufficient resources to walking and bicycling.

### Give Bicyclists and Pedestrians a Little "TLC"

Cities, counties, and pedestrian and bicycle advocates should pursue funding opportunities through MTC's Transportation for Livable Communities/Housing Incentive Program (TLC/HIP) initiatives. These grants can be leveraged with non-transportation funding, such as community development block grants, redevelopment tax increment funds and Air District clean air funds. MTC has administered its successful TLC/HIP program since 1998. The Transportation 2030 Plan allocates $9 million annually amongst the nine Bay Area counties so they can launch county-level TLC/HIP programs. Santa Clara already has incorporated a county TLC and pedestrian program into its voter-approved sales tax expenditure plan. Contra Costa County followed suit in its sales tax reauthorization measure approved by voters in November 2004.

## A Seamless Transit Trip

Getting from point 'A' to point 'B' via public transit in the Bay Area should not be as challenging as it often is. Reducing travel times, providing more reliable connections, making it easier to pay, and ensuring that transfers are easy and safe will entice more of us out of cars and thereby help ease congestion and protect the environment.

The public has long demanded a more convenient and "seamless" transit network. Participants in MTC's outreach for the 2001 Regional Transportation Plan ranked improved transit connections as one of six top recommendations for getting more out of our existing transportation resources. The issue also was one of three priorities identified by focus groups for the Transportation 2030 Plan, and improved coordination among transit agencies was ranked a top priority in a Transportation 2030 Plan telephone poll.

### Transportation 2030 Challenges

In 2002, MTC launched a Transit Connectivity Project to identify key transfer barriers and recommend improvements. Barriers were identified in four categories:

- **Service connections** – infrequent service; uncoordinated schedules or poor schedule adherence
- **Transfer point information/amenities** – lack of signage; indecipherable or out-of-date information; lack of shelters, seating, safe environment, restrooms, food, etc.

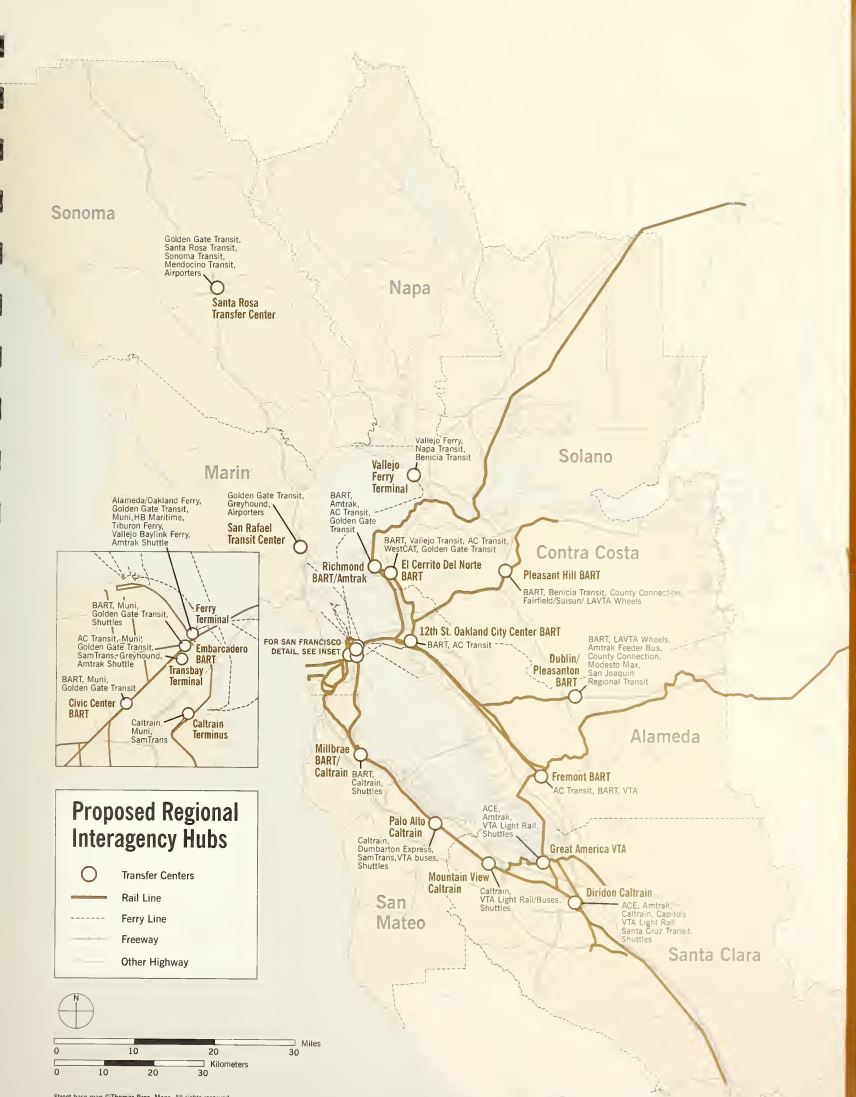
> "IMPROVED COORDINATION AMONG TRANSIT AGENCIES WAS RANKED A TOP PRIORITY IN A TRANSPORTATION 2030 PLAN TELEPHONE POLL."

- **Pre-trip information** – lack of centralized telephone information; no access to customer service representatives at night and on weekends; barriers for non-English speakers
- **Fare policies and fare collection** – multiple and confusing fare and transfer policies

Transit agencies, MTC and others are currently taking a number of steps to improve transit connectivity. For example, cross-platform rail transfers have been established in Richmond, Millbrae and San Jose. The TransLink® regional electronic fare card has been successfully tested and is ready for full implementation beginning in late 2005. The Altamont Commuter Express and Santa Clara Valley Transportation Authority operate an integrated rail shuttle to work sites. San Francisco Muni and a number of operators are moving forward with real-time bus and train information at key transfer points.

Building on these connectivity improvements, the Transit Connectivity Project developed seven major recommendations for a seamless, regional transit system:

- Establish a regional network of transit hubs and services
- Develop a regional signage and information assistance program


Sonoma
Golden Gate Transit, Santa Rosa Transit, Sonoma Transit, Mendocino Transit, Airporters
Santa Rosa Transfer Center
Napa
Marin
Vallejo Ferry, Napa Transit, Benicia Transit
Vallejo Ferry Terminal
Solano
Alameda/Oakland Ferry, Golden Gate Transit, Muni,HB Maritime, Tiburon Ferry, Vallejo Baylink Ferry, Amtrak Shuttle
Golden Gate Transit, Greyhound, Airporters
San Rafael Transit Center
BART, Amtrak, AC Transit, Golden Gate Transit
BART, Vallejo Transit, AC Transit, WestCAT, Golden Gate Transit
Richmond BART/Amtrak
El Cerrito Del Norte BART
Contra Costa
Pleasant Hill BART
BART, Benicia Transit, County Connection, Fairfield/Suisun/ LAVTA Wheels
Ferry Terminal
BART, Muni, Golden Gate Transit, Shuttles
AC Transit, Muni, Golden Gate Transit, SamTrans, Greyhound, Amtrak Shuttle
Embarcadero BART
Transbay Terminal
BART, Muni, Golden Gate Transit
Civic Center BART
Caltrain, Muni, SamTrans
Caltrain Terminus
FOR SAN FRANCISCO DETAIL, SEE INSET
12th St. Oakland City Center BART
BART, AC Transit
BART, LAVTA Wheels, Amtrak Feeder Bus, County Connection, Modesto Max, San Joaquin Regional Transit
Dublin/ Pleasanton BART
Alameda
Millbrae BART/ Caltrain
BART, Caltrain, Shuttles
Fremont BART
AC Transit, BART, VTA
ACE, Amtrak, VTA Light Rail, Shuttles
Palo Alto Caltrain
Caltrain, Dumbarton Express, SamTrans,VTA buses, Shuttles
Great America VTA
Mountain View Caltrain
Caltrain, VTA Light Rail/Buses, Shuttles
Diridon Caltrain
ACE, Amtrak, Caltrain, Capitols VTA Light Rail, Santa Cruz Transit, Shuttles
San Mateo
Santa Clara
Proposed Regional Interagency Hubs
Transfer Centers
Rail Line
Ferry Line
Freeway
Other Highway
N
Miles
0 10 20 30
Kilometers
0 10 20 30

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- Fully implement the regional transit trip-planning system
- Expand real-time transit information
- Improve customer telephone information services
- Develop a plan for "last mile" connecting services to mainline rail and bus lines
- Fully implement the TransLink® universal ticket throughout the region

Voter-approved Regional Measure 2 requires MTC to adopt a Transit Connectivity Plan by December 2005. This effort will build upon the recommendations from the Transit Connectivity Project. Regional Measure 2 also provides funding for a number of connectivity improvements including:

- Direct platform access between Muni and BART at Embarcadero and Civic Center stations in downtown San Francisco
- $20 million for expanded express bus service and related infrastructure
- $22 million to integrate TransLink® with operator fare equipment and expand the system to new transit services
- $20 million to assist transit operators in implementing real-time scheduling
- Planning assistance to develop an integrated fare program

## Transportation 2030 Decision

The Commission recognized the importance of improved transit connectivity when, in December 2003, it adopted a "Reliable Commute" goal, with the objective to "make it easier for people to make connections between transit systems." Improved connectivity also will help achieve other Transportation 2030 goals, including Clean Air, Access to Mobility and Livable Communities.

The Commission also committed $129 million toward TransLink®, adding to the $209 million in existing funding. However, an additional $26 million will be needed to fully deploy the TransLink® system.

## Calls to Action

### Fully Implement the TransLink® System

Full regional rollout of the TransLink® program will give riders a single universal fare card valid on all Bay Area transit lines, and will greatly simplify the fare collection process for operators.

### Establish a Regional System of Hubs and Services

Revenues from the voter-approved bridge toll increase (Regional Measure 2) provide an opportunity to create a coordinated, regional system of transfer stations and major rail and bus connections. (See map on page 61.) As a first step, the Regional Measure 2 Transit Connectivity Study will review the system of proposed regional interagency transit hubs identified in the January 2005 *Transit Connectivity Report*.

### Improve Customer Information and Assistance

MTC and the region are well poised to advance the recommended strategies emerging from the Regional Transit Connectivity Project by (a) improving regional signage, (b) expanding real-time transit information, (c) fully implementing the regional transit trip-planning system and (d) improving customer information telephone services. These support services are essential for attracting and retaining transit riders.

### Consolidate Transit Operations

As discussed on page 43, having some two dozen transit operators in the Bay Area can be a serious barrier to a seamless transit trip. A smaller, more manageable number of agencies can make better transit connections easier to achieve.

PETER BEELER

## Enhancing Livability by Connecting Transportation And Land Use

The Bay Area is expected to add nearly two million more people and 1.4 million new jobs over the next 25 years. Our transportation system's ability to handle this growth depends on where these people will live and where the jobs will be located. The bottom line: the Bay Area must accommodate more of its future growth in existing urban and suburban areas where good road and transit connections already exist.

In preparing the Transportation 2030 Plan, MTC found strong public support for better connecting transportation and land use, developing more convenient transportation options, and pursuing greater regional cooperation on issues surrounding transportation and land use.

### Transportation 2030 Challenges

- Promoting transit-oriented development and implementing the regional Smart Growth Vision adopted in 2002 requires stronger partnerships and more collaborative planning among MTC, the Association of Bay Area Governments (ABAG), the Bay Area Air Quality Management District, Caltrans, other regional planning agencies, adjoining regions, public transit agencies, local governments and county congestion management agencies. While all these agencies share a critical interest in land-use decisions, it is local governments and the private sector that will ultimately determine land-use patterns and shape the design of communities and neighborhoods.

- MTC directs a majority of the transportation funds under its control toward public transit projects, including significant expansion of the region's transit network. These investments will be cost-effective only if sufficient numbers of people live and work near the new rail stations, bus stops and ferry terminals. MTC and local governments will have to work together to ensure that supportive land uses around future transit nodes will be planned for and built.

- To boost transit ridership, conserve open space and create more walkable neighborhoods, the region must produce a broader array of housing types, more affordable to a wider range of incomes, and at higher densities than traditionally have been planned for. In order for these higher density developments to be embraced by the public, they will have to be livable and well designed.

PETER BELLIS

- The strong demand for suburban living will continue. This will require the Bay Area to shape new suburban development patterns and retrofit existing suburbs to promote more walkable communities, reduce the number of single-occupant vehicle trips and coordinate transportation and land-use decisions.

- A shift toward more compact growth patterns and the implementation of the Smart Growth Vision could result in a litany of unintended consequences. Efforts to focus growth toward the inner Bay Area will have to be done in a way that minimizes displacing existing residents and business — including critical economic engines like warehousing and freight facilities.

## Transportation 2030 Decision

The five-point Transportation/Land-Use Platform adopted by MTC in December 2003 includes tripling funding for the Transportation for Livable Communities (TLC) Program to $27 million annually. The Commission asked staff to further develop and refine the platform and any supporting policies and programs — with input from a broad range of stakeholders (now represented through MTC's Transportation/Land-Use Task Force) — for release as part of this Transportation 2030 Plan. The platform is included as Appendix Two to this document.

## Calls to Action

### Condition Transit Funds on Supportive Land Use

MTC will develop a new policy to ensure that the investment of regional discretionary dollars for major new transit projects will be matched by local land-use patterns, plans and policies supporting adequate housing and employment densities.

### Provide More Land-Use Planning Funds to Partners

MTC will continue to provide planning funds to the county Congestion Management Agencies (CMAs), as well as the Association of Bay Area Governments (ABAG), to support better transportation and land-use planning, and the implementation of the regional Smart Growth Vision. MTC also will develop a new grant program for local governments to support more comprehensive land-use planning around transit stations and corridors.

### Develop Joint Planning Projects with Regional Neighbors

MTC, ABAG, the Air District and the metropolitan planning organizations in regions adjacent to the Bay Area will build on ABAG's work with the Interregional Partnership to develop new joint planning projects that address interregional commute and recreational travel.

### Create Smarter Suburbs

Local government and the private sector must collaborate with MTC and its regional partners to develop new approaches to suburban design that offer a wider variety of travel options for shorter-distance trips, particularly walking, bicycling, and smaller shuttle and jitney services.

### Evaluate Progress and Performance

MTC and ABAG must quantify progress through specific performance measures to gauge success in meeting the Smart Growth Vision's goals. We also must clearly communicate both successes and failures to our partners and the general public. A recent evaluation of the TLC/HIP programs led to significant changes to strengthen the programs.

## Getting There Safe And Sound

Improved safety for all local travelers is a key consideration in all transportation investment decisions. Safety and security issues fall into three key areas:

- Automobile accidents, including auto collisions with bicyclists and pedestrians
- Natural disasters, especially the seismic safety of the transportation infrastructure
- Threats to personal safety and to key facilities stemming from individuals committing a crime or from acts of terror

### Injury and Fatal Collisions on Bay Area Roadways, 1998–2002

| | Collisions 1998 | Collisions 1999 | Collisions 2000 | Collisions 2001 | Collisions 2002 | % Change 1998–2002 |
|---|---|---|---|---|---|---|
| Injury Collisions | 39,027 | 37,913 | 39,609 | 38,322 | 37,167 | –5% |
| Fatal Collisions | 433 | 405 | 444 | 449 | 451 | +4% |
| Total Injury and Fatal Collisions | 39,460 | 38,318 | 40,053 | 38,771 | 37,618 | –5% |
| Property Damage Only Collisions | 67,164 | 65,339 | 70,001 | 65,219 | 68,912 | +3% |
| Total Collisions | 106,624 | 103,657 | 110,054 | 103,990 | 106,530 | 0% |

Source: California Highway Patrol

### Injury and Fatal Motor Vehicle Collisions Involving Pedestrians or Bicyclists, 1998–2002

| | Collisions 1998 | Collisions 1999 | Collisions 2000 | Collisions 2001 | Collisions 2002 | % Change 1998–2002 |
|---|---|---|---|---|---|---|
| Collisions Involving Pedestrians | | | | | | |
| Injury Collisions | 3,258 | 3,099 | 3,173 | 3,080 | 2,910 | –11% |
| Fatal Collisions | 125 | 97 | 134 | 103 | 111 | –11% |
| Subtotal | 3,383 | 3,196 | 3,307 | 3,183 | 3,021 | –11% |
| Collisions Involving Bicyclists | | | | | | |
| Injury Collisions | 3,004 | 3,066 | 2,810 | 2,566 | 2,321 | –23% |
| Fatal Collisions | 18 | 19 | 17 | 20 | 19 | +6% |
| Subtotal | 3,022 | 3,085 | 2,827 | 2,586 | 2,340 | –23% |
| Total Involving Bicyclists or Pedestrians | 6,405 | 6,281 | 6,134 | 5,769 | 5,361 | –16% |

Source: California Highway Patrol

## Transportation 2030 Challenges

### Automobile, Bicycle and Pedestrian Safety

- Each generation of new vehicles — cars, buses and trains — builds in additional safety features, such as air bags and anti-lock brakes. Designs for new transportation facilities — bridges, freeway interchanges, pedestrian crossings, and the like — also build in the latest safety features.
- There are several programs that focus on addressing safety issues, including the federal Hazard Elimination Safety and the state's Safe Routes to Schools programs. Requests for this funding, however, are many times over the available revenues. More funding is needed to reduce the number of collisions and injuries.
- Some agencies lack the staff expertise and time to regularly analyze data on collisions and their causes, and a few cities have reduced staff to the point that they no longer complete police reports on property-damage-only collisions.

### Seismic Safety

- The Bay Area and the state have made an immense investment to improve the seismic safety of key transportation facilities, including strengthening toll bridges to withstand a major earthquake. Since the state announced in August 2004 that Caltrans' costs for the toll bridge seismic retrofit program for state-owned spans (all but the Golden Gate) had ballooned to $8.3 billion, there has been an intense public debate about how to pay for these cost overruns. The Legislature completed an investigation into the root causes of Caltrans' repeated cost escalations. In the next few months, the governor and Legislature must develop an equitable long-term financing solution for this vital safety program.
- BART, likewise, needs considerable revenues to make the system earthquake safe. Fortunately, in November 2004, voters in Alameda, Contra Costa and San Francisco counties approved a $1 billion bond measure (backed by property taxes) to retrofit the transbay tube and other key facilities, but additional revenue will be needed to strengthen the entire BART system.

BILL MILL, CALTRANS

## Homeland Security/Terrorist Threats

- The Bay Area's transportation system presents numerous potential targets for a terrorist attack. Affected agencies need to collectively define these threats and respond with appropriate measures to protect travelers. Absent a greater financial commitment from the federal government for homeland security and transportation, the Bay Area will need to use local funds to pay for some of the more urgently needed protections.

**"DESIGNS FOR NEW TRANSPORTATION FACILITIES MUST ALSO BUILD IN THE LATEST SAFETY FEATURES."**

## Calls to Action

### Complete Seismic Retrofit of Key Transportation Facilities

Sixteen years after the 1989 Loma Prieta earthquake, the time has long since passed to make our key transportation facilities earthquake safe. The Bay Area transportation community will need to work with state lawmakers on a plan to pay for the urgently needed strengthening of key facilities.

### New Vehicle Registration Fee for Safety and Security

An additional fee on vehicle registrations could provide critical funding to increase safety for motorists, pedestrians and bicyclists, as well as for security programs. Funding should be linked to annual analyses of collision or other appropriate data.

### Analyze Traffic Collision Data

The Bay Area transportation community must implement a program to ensure thorough analysis of collision data to identify problem locations and the primary factors contributing to accidents, then identify and implement needed low-cost safety improvements.

### Coordinate Security Efforts

Many Bay Area transportation agencies are implementing projects to improve the safety and security of their own systems, and training their employees to watch for, and respond to, terrorist acts. Defining levels and standards for security, and coordinating a quick and effective regional response by affected agencies, must be a regional priority supported by federal funds.

### Increase Federal Homeland Security Funding for Transportation

While the region has benefited from some congressional earmarks for protecting our ports and transit systems from terrorist attacks, far more investment is needed. We urge Congress to increase funding, and — as the 9/11 Commission has recommended — direct a larger portion to urban areas, where the threat level is greatest.

# strategic expansion

## HOT Network Delivers Carpool Lanes and Congestion Insurance

In many Bay Area travel corridors, carpool lanes, also known as high-occupancy-vehicle (HOV) lanes, offer travelers a way to beat peak-period congestion. On some freeways, carpool lane users can regularly shave as much as 15 or 20 minutes off their morning or evening commutes. Similarly, express bus routes use carpool lanes to bypass traffic and provide faster, more reliable service.

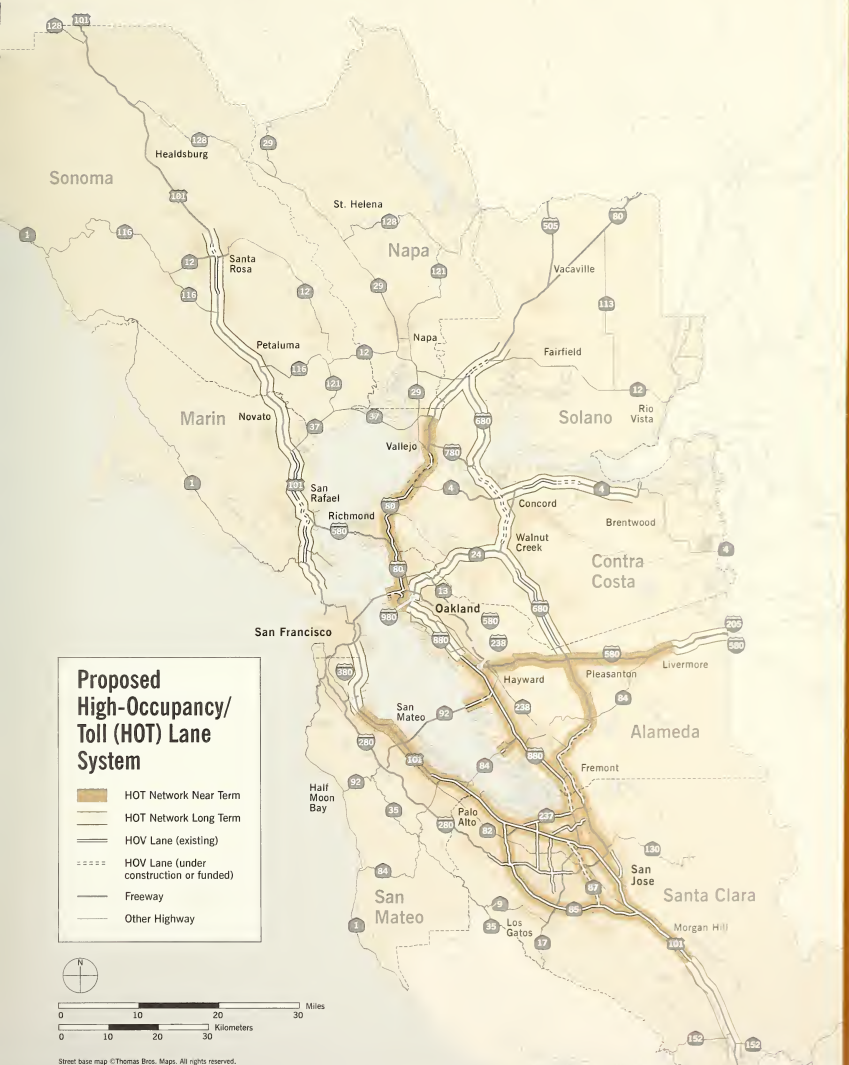
HOV lanes also make our freeways more efficient. For example, at the height of the morning commute, nearly two thirds of all people traveling to San Francisco over the Bay Bridge pass through the carpool lanes at the toll plaza, though these lanes carry just 40 percent of all the vehicles during the same period. With a record like this, it is easy to see the appeal of completing the regional HOV lane network and expanding regional express bus service in HOV lanes. Indeed, surveys of Bay Area residents demonstrate broad support for expanding and closing gaps in the HOV system to support a more robust network of express buses.

If we rely on traditional funding sources, it will take two decades or more to complete the HOV system, and even longer to build HOV connectors at major interchanges such as I-880 and State Route 237 in Santa Clara County. Further, because there is barely enough traditional funding to operate the existing transit system, we would be hard pressed to finance expanded express bus service in HOV lane corridors.

To speed completion of the HOV network and expand regional express bus service, the Bay Area should consider financing the construction and operating costs by allowing people who drive alone to use specially designated carpool lanes for a fee. These so-called high-occupancy/toll (HOT) lanes would have the additional benefit of injecting a pricing element into highway use by giving solo drivers the option of paying for the opportunity to bypass congestion by traveling in HOV lanes. Carpools and buses would still travel free of charge. HOT lanes not only allow us to complete the carpool network, they offer "congestion insurance," with premiums paid only by drivers who use them.

In the Bay Area, existing HOV lanes would be converted to HOT lanes. Toll revenues could then be used to complete the HOV system, build HOV lane connectors at major interchanges, and expand express bus and rideshare services. HOT lane tolls would be paid using the FasTrak™ technology, already familiar to those who traverse Bay Area toll bridges. With FasTrak™ readers installed on overhead structures, HOT lane tolls can be collected without forcing drivers to stop or even slow down. The toll paid by solo drivers would be set to balance supply and demand and keep the HOT lanes flowing freely. During the most congested commute periods, when carpool and bus traffic is heavy, the toll would be high so that only a small number of solo drivers — who most need "congestion insurance" — buy in. This keeps the HOT lane from becoming congested and maintains the travel time advantage. In periods of lighter traffic, a much lower toll would be charged to encourage solo drivers to use the HOT lane for a more modest time advantage.

In California, the pricing of HOV lanes already is being practiced on some freeways in Orange and San Diego counties — giving motorists the choice of traveling in buses, carpools or vanpools; paying a variable toll to drive in an HOV lane; or driving free of charge on existing mixed-use lanes.

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## Transportation 2030 Challenges

- Express buses depend on HOV lanes to zip passengers around the Bay Area. Filling existing gaps in the region's HOV system would create a seamless network of unobstructed lanes, deliver faster commutes and improve overall efficiency. This may also work to encourage more people to take transit. But financing new carpool lanes is a challenge. HOT lane tolls would generate new funds to speed completion of the HOV system, buy and operate new transit vehicles, and influence demand for scarce roadway capacity.

- Though the concept of converting HOV lanes to HOT lanes has gained some support, there are concerns that HOT lanes would benefit only the affluent. A California Polytechnic University (San Luis Obispo) study of Orange County's State Route 91 toll lanes found that only about one-quarter of the motorists in toll lanes at a given time are higher-income motorists. The majority are low- and moderate-income motorists. Further, toll revenues can be used to fund express bus and other rideshare services that would be used by travelers of all income levels. HOT lanes give all travelers, regardless of income, the freedom of choice.

- Implementation of a HOT network in the Bay Area could take place over the next five to 10 years. MTC will need federal and state legislative permission — and cooperation from Caltrans and the CHP — to implement a comprehensive HOT network. Legislation was recently enacted to allow a limited number of HOT lanes to be implemented in Alameda and Santa Clara counties.

- HOT lanes will lead to an increase in traffic volumes in these lanes. To maintain premium service levels that expedite buses, encourage carpooling and attract toll-paying drivers, the threshold for carpool designation in some corridors may have to rise to three persons per vehicle.

- Implementation of a HOT network would mark a turn away from traditional highway expansion financing, by relying on user fees generated directly by the HOT lanes themselves rather than gasoline taxes or sales taxes to build more HOV lanes.

- It is challenging to explain the HOT lanes concept to the Bay Area public, which is largely unfamiliar with how pricing schemes on HOV lanes are already working in other parts of the state. More effort, and perhaps a more descriptive name, is needed to familiarize the public with this new notion. Other regions have struggled with the same challenge: the term "managed lanes" is used in San Diego and Texas; "express lanes" is used in Orange County; and an Alameda County pilot project uses the term "Smart Carpool Lanes."

## Calls to Action

### Try Before We Buy

We'll never know if HOT lanes can be an effective solution to congestion unless we give them a try. A pilot HOT lane program in Alameda and Santa Clara counties must get under way as quickly as feasible. While these pilot projects are under development, MTC will conduct regional studies to provide additional information on a range of issues, including: public acceptance in the Bay Area; impacts on low-income travelers; and effects on incentives for carpooling as well as on carpool-lane operations. MTC will work with interested partners to inform the public about how HOT lanes work, based on experience in other parts of the state and country.

### Put Legislation in the Fast Lane

MTC is seeking permission from Congress and the state Legislature to implement tolls on the state highway system. House and Senate reauthorization bills to permit greater experimentation with tolls on the Interstate system indicate the federal government is supportive of tolling. Bay Area transportation agencies must work collectively to build support for HOT lanes and other innovative pricing programs as reauthorization of federal surface transportation legislation unfolds.

### Get a Little Help From Our Friends

Implementation of a HOT network will require extensive cooperation with Caltrans (which may need to adopt more flexible rules for roadway design and operations) and the CHP (which will have to rigorously enforce HOT lane eligibility laws to keep the lanes free-flowing).

## MTC Resolution 3434: The Bay Area's Vision For Transit Expansion

MTC's Regional Transit Expansion Program, adopted in 2001 as Resolution 3434, identifies nine new rail extensions, significant service expansions to existing rail lines and a comprehensive regional express bus program, new ferry service, plus eight enhancement programs to existing rail and bus corridors. (See corresponding maps on pages 73 and 75.) When fully implemented, this next generation of transit expansion projects will forge key transit network connections between southern Alameda County and the Silicon Valley, provide a new southern transbay link, enhance the Bay Area's central transit hub in San Francisco, and extend the reach of rail to the North Bay and the outer East Bay.

## Transportation 2030 Challenges

### Financing

Central to the Transportation 2030 Plan update is a review of the financial assumptions that went into developing the Regional Transit Expansion Program. This review will focus not only on capital investments, but also on identifying a stable revenue stream to operate and maintain the new services.

### Smart Growth

A key element of MTC's Transportation/ Land-Use Platform, incorporated into the Transportation 2030 Plan, is the directive to condition MTC Resolution 3434 funds on projects that promote transit-oriented development. A task force is assisting in developing recommendations on how best to leverage transit expansion investments.

### High-Speed Rail

A statewide high-speed rail service currently is being planned. This new state investment could benefit local commuters as well, especially in upgrading the Caltrain system on the San Francisco peninsula, which will share right-of-way with the high-speed trains.

## Calls to Action

### Condition Transit Expansion Upon Appropriate Land Uses

Transit should be expanded only in those areas where there are existing or planned land uses with development densities to support the transit service.

### Seek Robust Federal Earmarks

Continue the region's aggressive strategy to capture significant federal rail, bus and ferryboat discretionary revenues.

### Support Retention of Traffic Congestion Relief Program Earmarks

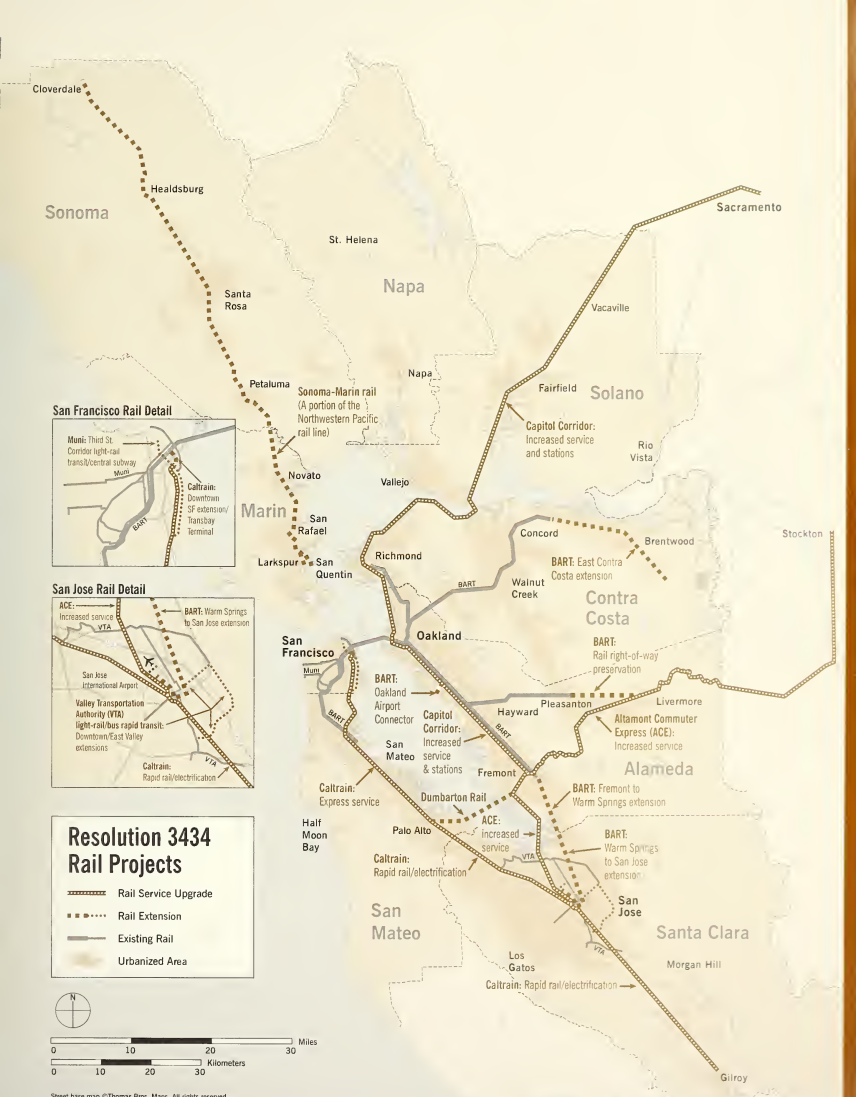
Proposition 42, which passed with 69 percent of the vote in March 2002, permanently dedicated gasoline sales tax revenues to transportation. It is expected to generate over $1 billion each year for transportation, including $678 million annually for the statewide Traffic Congestion Relief Program (TCRP), which provides a total of $850 million for Resolution 3434 transit expansion projects. California's continuing budget troubles, however, have led to repeated diversions of TCRP funding.

### Support Passage of County Sales Taxes

Local transportation sales taxes are an increasingly important source of transit funding in the Bay Area, and have been a critical source of local funding for Resolution 3434 projects. These funds can be used as a match to qualify for state and federal funds.

### Support the California High-Speed Rail Initiative

California voters' approval of a proposed bond measure — slated for the ballot in 2006 or 2008 — for a high-speed rail system linking the Bay Area and southern California also could provide crucial funding for Resolution 3434 projects, including Caltrain electrification and extension into a new Transbay Terminal in downtown San Francisco.

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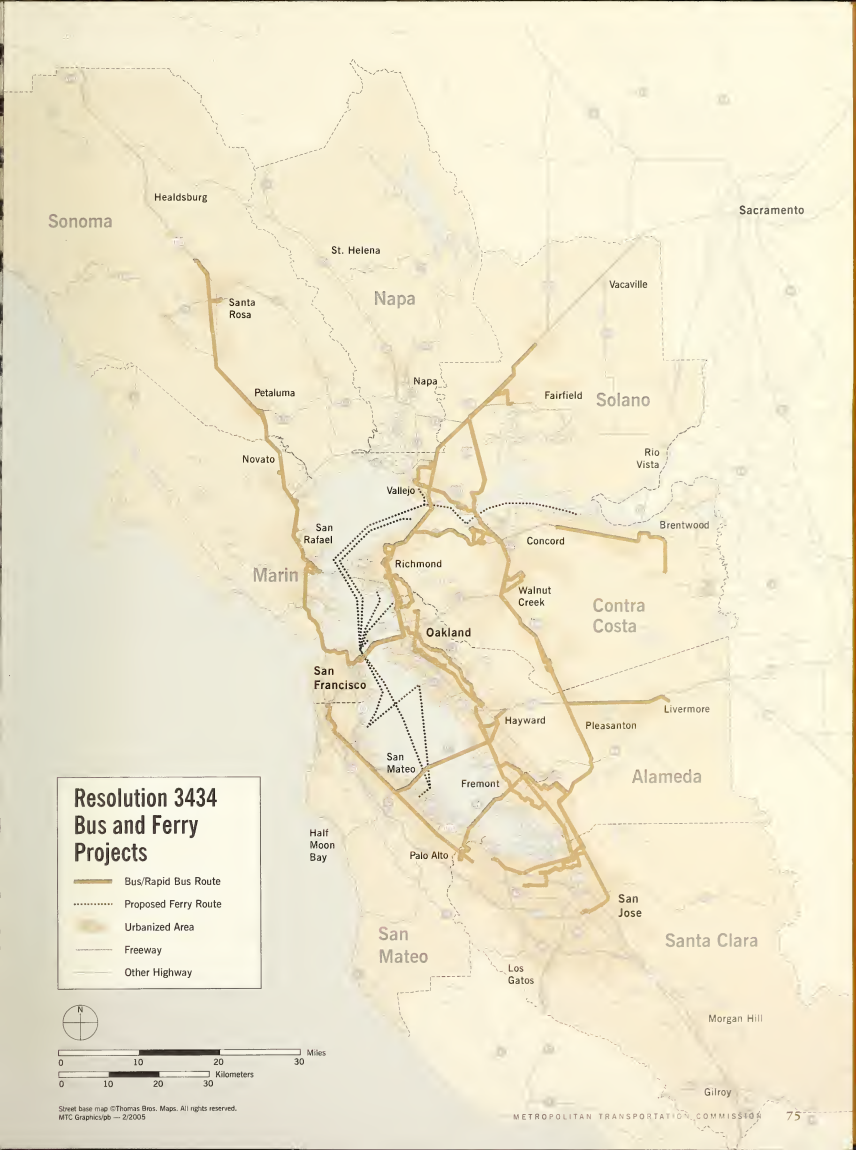


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## Moving Goods to Market

Goods movement is critical to the Bay Area's economy. Bay Area businesses and residents could not function without a robust goods-movement system. Measured in terms of tonnage, nearly half of all goods moved into, out of, or within the Bay Area have both an origin and a destination within the region. Commodities such as food, construction materials and merchandise for retail stores account for most of the freight that travels in the region.

Over 37 percent of Bay Area economic output is in manufacturing, freight transportation, and warehouse and distribution businesses. Collectively, these businesses spend approximately $6.6 billion annually on transportation services. The businesses providing these services also play a critical role as generators of jobs and economic activity in their own right. Bay Area goods-movement businesses provided almost 6 percent of the region's jobs in 1997. Since these estimates do not include employment in warehouses, it is likely that goods-movement businesses provide almost twice as much employment as indicated in these figures. Some of these jobs are entry-level jobs, which have been declining in other sectors of the manufacturing economy.

## Transportation 2030 Challenges

### Highways

More than 80 percent of the goods movement in the Bay Area involves trucking in several major corridors — Interstate 880, U.S. 101, I-580 and I-80. In these corridors, which rank among the most congested in the Bay Area, trucks compete for scarce freeway capacity.

### Rail

After trucking, rail carries the next-largest share of Bay Area freight. For the most part, the system in the Bay Area is functioning effectively for the primary markets it serves. There are, however, a number of locations throughout the East Bay where at-grade rail crossings pose problems for both the rail network (slowing rail traffic and creating bottlenecks) and for truck and auto traffic. Another problem is the growing competition between freight rail needs and passenger rail needs in the Capitol Corridor linking Sacramento and the Bay Area.

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MTC Graphics/pb — 2/2005

### Air Cargo

Air cargo is the fastest-growing segment of the Bay Area goods-movement system. Air cargo volume is forecast to triple between 1998 and 2020, with a whopping 125 percent increase in all-cargo flights. Peak-period congestion on freeways leading to the airports is becoming more of an issue for expedited delivery shipments needing access to the airport. Lastly, landside capacity for support facilities is a growing problem. The lack of availability of air cargo storage and sort facilities constrains future growth in international cargo shipments from San Francisco International Airport.

> "AIR CARGO IS THE FASTEST-GROWING SEGMENT OF THE BAY AREA GOODS MOVEMENT SYSTEM."

### Maritime

Peak-period congestion problems are becoming an important access issue for the Port of Oakland. As warehouse and freight facilities move to outlying areas, trucks must be on the road longer to access the port.

### Land Use

One of the biggest constraints on goods movement is the lack of suitable land for supporting businesses, especially in the bayside communities of the region's urban core.

## Calls to Action

### I-880 Corridor Improvements

- Improve incident management, and fund centrally controlled ramp metering and traveler information systems.
- Reduce operational difficulties facing trucks through interchange improvements, auxiliary lane improvements, truck lane continuity improvements, and spot-capacity increases to improve safety and traffic flow conditions along freeway segments with high truck volumes.
- Provide viable alternatives to the freeway for trucks serving the major industrial corridor along I-880, such as parallel arterials and rail or inland barge options.

### Consider Options for Expanding Capacity in the I-580 Corridor

Potential options to explore include truck climbing lanes over the Altamont Pass, an inland rail or barge shuttle system, or a truck-only toll facility.

### Maritime Projects

Improve access to the Port of Oakland through a series of investments on arterial access routes and I-880 interchanges and the integration of public and private freight-tracking information systems.

### Air Cargo Projects

Develop a land-use/industrial land preservation plan for the region's major commercial airports in San Francisco, Oakland and San Jose. Improve cross-Bay connections among the airports and between shippers concentrated in the South Bay/East Bay and the international and domestic air cargo facilities.

### Land Use

The Bay Area transportation community must develop regional strategies and incentives to encourage local communities to preserve land for freight-related uses.

# appendices

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# projects by county

## Bay Area Region/Multi-County

| Reference Number | Project/Program | Total Project Cost | Financially Constrained Element[1] | Vision Element[2] | Notes |
|---|---|---|---|---|---|
| | | In millions of 2004 dollars | | | |
| **Adequate Maintenance** | | | | | |
| 94540 | Carquinez Bridge replacement: construct new suspension bridge west of existing bridges (4 westbound lanes, including a high-occupancy-vehicle (HOV) lane, plus new bicycle/pedestrian pathway) and modify Crockett interchange | $479.8 | $479.8 | | Regional Measure 1 Toll Bridge Program; open to traffic; demolition of original bridge remains |
| 94541 | New Benicia-Martinez Bridge: construct new bridge span east of existing span (4 mixed-flow lanes and 1 slow-vehicle lane). Includes new toll plaza and upgrades to I-680/I-780 interchange and I-680/Marina Vista Road interchange, and reconstruction of the existing bridge for 4 mixed-flow lanes and bicycle and pedestrian lane. | $1,057.8 | $1,057.8 | | Regional Measure 1 & 2 Toll Bridge programs |
| 21012 | Golden Gate Bridge seismic retrofit (completes Phases 2 and 3) | $392.0 | $392.0 | | Phase 2 is under way |
| 22654 | Golden Gate Bridge rehabilitation projects | $99.4 | | $99.4 | |
| 98102 | South Access to the Golden Gate Bridge: Doyle Drive environmental study | $16.2 | $16.2 | | 2003 Proposition K sales tax project |
| 94089 | Reconstruct South Access to the Golden Gate Bridge: Doyle Drive to Broderick Street | $446.7 | $446.7 | | |
| 21013 | Rehabilitation of Bay Area state-owned toll bridges | $238.0 | $238.0 | | |
| 21014 | Richmond-San Rafael Bridge deck replacement | $53.4 | $53.4 | | |
| 21015 | Seismic retrofit of Bay Area state-owned toll bridges, including San Francisco-Oakland Bay Bridge east span and west span/approach, and Benicia-Martinez, Carquinez and Richmond-San Rafael bridges | $8,300.0 | $5,085.0 | $3,215.0 | |
| 22038 | San Francisco-Oakland Bay Bridge toll plaza HOV bypass lanes | $4.0 | $4.0 | | |
| 21017 | Small transit operators in Alameda, Contra Costa, Napa, Solano and Sonoma counties — transit operating and capital improvement program (including replacement, rehabilitation, and minor enhancements for rolling stock, equipment, fixed facilities other capital assets; does not include system expansion) | $2,513.8 | $2,497.4 | $16.4 | |
| 22636 | BART transbay tube earthquake safety (Phase 1) | $156.0 | $156.0 | | Regional Measure 2 Toll Bridge Program |
| 22520 | BART earthquake safety program (excludes Phase 1 of transbay tube earthquake safety project) | $1,307.0 | $1,307.0 | $0.0 | |
| **System Efficiency** | | | | | |
| 21001 | Freeway Traffic Operations (includes Traffic Operations System/ Transportation Management Center enhancements, Freeway Service Patrol, incident management and technical assistance) | $466.2 | $109.5 | $356.7 | |
| 21005 | TransLink® | $363.8 | $338.1 | $25.7 | Initial phase funded in Regional Measure 2 Toll Bridge Program |
| 21006 | 511/Transit (regional transit information systems) and transportation marketing | $75.9 | $40.7 | $35.2 | Initial phase funded in Regional Measure 2 Toll Bridge Program |
| 21008 | 511/Traffic | $142.8 | $121.3 | $21.5 | |

[1] Financially Constrained Element refers to programmed local, regional, state, federal funds as well as discretionary state and federal funds anticipated to be available over the long term of the Transportation 2030 Plan.

[2] Vision Element refers to new local, regional, state and federal funds that may become available over the near to mid-term of the Transportation 2030 Plan through voter approval or legislative authorization.

## Bay Area Region/Multi-County

| Reference Number | Project/Program | Total Project Cost | Financially Constrained Element[1] | Vision Element[2] | Notes |
|---|---|---|---|---|---|
| | | In millions of 2004 dollars | | | |
| **System Efficiency** | | | | | |
| 21007 | Rideshare Program | $54.0 | $54.0 | | |
| 21010 | Performance monitoring | $3.5 | $3.5 | | |
| 21011 | Transportation for Livable Communities (TLC)/Housing Incentive Program (HIP) — regional and county programs | $454.0 | $454.0 | | |
| 21320 | Golden Gate Bridge moveable median barrier | $23.8 | $23.8 | | |
| 21627 | Caltrain electrification from San Francisco to Gilroy | $602.0 | $602.0 | | Resolution 3434 Regional Transit Expansion Program; cost shown is the three-county combined cost |
| 22241 | Regional Measure 2 Studies (includes regional rail study, transit connectivity study, Water Transit Authority environmental studies, I-680/Pleasant Hill BART connector study and Caldecott Tunnel transit ridership study) | $19.0 | $19.0 | | Regional Measure 2 Toll Bridge Program |
| 22242 | Real-Time Transit Grant Program | $20.0 | $20.0 | | Regional Measure 2 Toll Bridge Program |
| 22244 | City CarShare | $2.5 | $2.5 | | Regional Measure 2 Toll Bridge Program |
| 22245 | Safe Routes to Transit | $20.0 | $20.0 | | Regional Measure 2 Toll Bridge Program |
| 22247 | Regional Bicycle and Pedestrian Program | $200.0 | $200.0 | | |
| 22421 | Clean Air Program | $255.5 | $255.5 | | |
| 22423 | Lifeline Transportation Program | $216.0 | $216.0 | | |
| 22425 | Surface Transportation Program (STP) and 10-year support for Transportation Planning and Land Use Solutions (T-PLUS) planning funds for counties | $95.0 | $95.0 | | |
| 22674 | BART Core Capacity Program — system capacity | $205.0 | $19.4 | $185.6 | |
| 22675 | BART Core Capacity Program — station access | $762.6 | $32.0 | $730.6 | Includes funding from Regional Measure 2 Toll Bridge Program |
| 22676 | BART Core Capacity Program — station capacity | $625.1 | $47.4 | $577.7 | |
| 22677 | BART Core Capacity Program — vehicles | $848.0 | | $848.0 | |
| 22090 | California Interregional Intermodal Study (CIRIS) — rail freight service between Port of Oakland and Central Valley | TBD | | TBD | |
| **Strategic Expansion** | | | | | |
| 94514 | I-880/Route 92 interchange improvements | $133.8 | $133.8 | | Regional Measure 1 Toll Bridge Program |
| 21066 | California High-Speed Rail with terminal in San Francisco | TBD | | TBD | |
| 21618 | Dumbarton rail corridor (Phase 1) | $300.0 | $300.0 | | Resolution 3434 Regional Transit Expansion Program; Regional Measure 2 Toll Bridge Program |
| 22719 | Dumbarton rail corridor (Phase 2) | $15.6 | | $15.6 | |

(Continues on next page)

## Bay Area Region/Multi-County

| Reference Number | Project/Program | Total Project Cost | Financially Constrained Element[1] | Vision Element[2] | Notes |
|---|---|---|---|---|---|
| | | In millions of 2004 dollars | | | |
| **Strategic Expansion** (continued from previous page) | | | | | |
| 21619 | Caltrain express tracks (Phase 2) | $482.0 | $390.0 | $92.0 | Resolution 3434 Regional Transit Expansion Program. Grade separation and passing track elements in San Mateo County are fully funded. No increase in service level assumed. |
| 22009 | Capitol Corridor: Phase 1 intercity rail service (track capacity/frequency improvements from Oakland to San Jose designed to allow 16 daily round trips between Oakland and Sacramento/San Jose) | $158.0 | $158.0 | | Resolution 3434 Regional Transit Expansion Program |
| 22003 | Capitol Corridor: Phase 2 enhancements | $96.0 | $96.0 | | Resolution 3434 Regional Transit Expansion Program |
| 22006 | Downtown Ferry Terminal improvements and spare ferry vessels | $36.0 | $36.0 | | Resolution 3434 Regional Transit Expansion Program (includes Regional Measure 2 Toll Bridge Program funds) |
| 22243 | Regional Measure 2 Express Bus North improvements (includes park-and-ride lots and rolling stock) | $10.5 | $10.5 | | Regional Measure 2 Toll Bridge Program |
| 22240 | Regional Measure 2 Express Bus South improvements (includes park-and-ride lots, HOV access improvements, and rolling stock) | $9.0 | $9.0 | | Regional Measure 2 Toll Bridge Program |
| 22005 | ACE service expansion to eight trains | $128.0 | $50.0 | $78.0 | Resolution 3434 Regional Transit Expansion Program |
| 22016 | Improvements to high-occupancy-vehicle (HOV) network (including HOV lane gap closures and express bus services); convert HOV network to high-occupancy/toll (HOT) network | $3,000.0 | | $3,000.0 | |
| 22001 | Sonoma Marin Area Rail Transit District (SMART) commuter rail project (environmental, preliminary engineering and right-of-way) | $62.0 | $62.0 | | Resolution 3434 Regional Transit Expansion Program (includes Regional Measure 2 Toll Bridge Program funds) |
| 22513 | Sonoma Marin Area Rail Transit District (SMART) commuter rail project (construction reserve only; full project not included in Financially Constrained Element) | $277.0 | $63.0 | $214.0 | Resolution 3434 Regional Transit Expansion Program; no operating funds identified |
| 21342 | Caltrain downtown extension/Transbay Terminal replacement (environmental, preliminary engineering and right-of-way acquisition) | $274.0 | $274.0 | | Resolution 3434 Regional Transit Expansion Program (includes Regional Measure 2 Toll Bridge Program funds) |
| 22008 | Caltrain downtown extension/TransBay Terminal replacement (construction reserve only; full project not included in Financially Constrained Element) | $1,543.0 | $946.0 | $597.0 | Resolution 3434 Regional Transit Expansion Program (includes Regional Measure 2 Toll Bridge Program funds and 2003 Proposition K sales tax funds); under construction |

[1] Financially Constrained Element refers to programmed local, regional, state, federal funds as well as discretionary state and federal funds anticipated to be available over the long term of the Transportation 2030 Plan

[2] Vision Element refers to new local, regional, state and federal funds that may become available over the near to mid-term of the Transportation 2030 Plan through voter approval or legislative authorization.

## Alameda County

| Reference Number | Project/Program | Total Project Cost | Financially Constrained Element[1] | Vision Element[2] | Notes |
|---|---|---|---|---|---|
| | | In millions of 2004 dollars | | | |
| **Adequate Maintenance** | | | | | |
| 94522 | Local streets and roads pavement and non-pavement maintenance | $2,148.1 | $2,148.1 | | |
| 94001 | Metropolitan Transportation System (MTS) streets and roads pavement and non-pavement rehabilitation shortfall | $112.4 | $112.4 | | |
| 22403 | Non-Metropolitan Transportation Systems (MTS) streets and roads pavement and non-pavement rehabilitation shortfall | $679.3 | | $679.3 | |
| 94525 | BART (Alameda County share based on population) — transit operating and capital improvement program (including replacement, rehabilitation and minor enhancements, equipment, fixed facilities and other capital assets; does not include expansion except BART-to-SFO extension) | $6,935.8 | $6,433.0 | $502.8 | |
| 94526 | AC Transit (Alameda County share based on population) — transit operating and capital improvement program (including replacement, rehabilitation and minor enhancements for rolling stock, equipment, fixed facilities and other capital assets; does not include system expansion) | $6,837.4 | $6,507.3 | $330.1 | |
| 94527 | Livermore Amador Valley Transit Authority (LAVTA) — transit operating and capital improvement program (including replacement, rehabilitation and minor enhancements for rolling stock, equipment, fixed facilities and other capital assets; does not include system expansion) | $372.4 | $372.4 | | |
| 21468 | Transit operations — AC Transit, Welfare to Work, Alameda ferries, Altamont Commuter Express (ACE), Union City Transit, Livermore Amador Valley Transit Authority (LAVTA) and countywide express bus | $510.0 | $510.0 | | 2000 Measure B sales tax project |
| 98153 | Reconstruct MacArthur Boulevard onramp to restore access to I-80 eastbound and I-580 westbound | $9.2 | $9.2 | | 100% fully funded |
| 98208 | Soundwalls program | $10.0 | $10.0 | | |
| 21151 | LAVTA maintenance/operations facility | $19.8 | $19.8 | | |
| 21460 | Iron Horse Trail bicycle, pedestrian and transit route | $5.8 | $5.8 | | 2000 Measure B sales tax project |
| 21863 | Local bridge maintenance | $74.8 | $74.8 | | |
| 22007 | Bicycle and pedestrian projects | $200.0 | $200.0 | | Funding includes $100 million from 2000 Measure B sales tax program and $100 million from other sources (Transportation Development Act, Transportation Fund for Clean Air, etc.) |
| 22766 | Fruitvale Avenue Railroad Bridge seismic retrofit | $7.2 | $7.2 | | |
| 22783 | Fruitvale Avenue Roadway Bridge seismic retrofit | $22.8 | $22.8 | | |
| 22768 | Estuary Bridges seismic retrofit and repairs | $2.4 | $2.4 | | |
| 22773 | Transit capital replacement, local road rehabilitation and safety projects | $19.0 | $19.0 | | 2000 Measure B sales tax project |
| 22661 | Adeline Street Bridge reconstruction | $60.0 | $12.0 | $48.0 | |

## Alameda County

| Reference Number | Project/Program | Total Project Cost | Financially Constrained Element[1] | Vision Element[2] | Notes |
|---|---|---|---|---|---|
| | | In millions of 2004 dollars | | | |
| **System Efficiency** | | | | | |
| 94024 | Auto/truck separation lane at I-580/I-205 interchange | $15.7 | $15.7 | | 100% fully funded |
| 98207 | I-880/Broadway-Jackson interchange improvements (Phase 1) | $28.0 | $28.0 | | |
| 21085 | Transportation Operations System (TOS) and ramp metering on I-580 from the San Joaquin county line to the city of Dublin (Phase 1) | $8.8 | $8.8 | | |
| 22092 | Transportation Operations System (TOS) and ramp metering on I-580 from Dublin to I-880, including I-238 (Phase 2) | $2.6 | $2.6 | | |
| 21103 | Central Avenue railroad overpass | $11.7 | $11.7 | | |
| 21107 | I-880/High Street interchange improvements | $15.9 | $15.9 | | |
| 21112 | Crow Canyon Road safety improvements (Stage 1) | $5.1 | $5.1 | | |
| 21114 | Washington/Paseo Padre Parkway grade separation | $72.9 | $72.9 | | Regional Measure 2 Toll Bridge Program |
| 21125 | Route 84 westbound HOV lane extension from Newark Boulevard to I-880 | $6.0 | $6.0 | | Regional Measure 2 Toll Bridge Program |
| 21126 | Route 84 westbound HOV on-ramp from Newark Boulevard | $6.1 | $6.1 | | Regional Measure 2 Toll Bridge Program |
| 21138 | San Leandro BART Station transit village (Phase 1); includes parking structure, kiss-and-ride and bus circulation improvements | $29.0 | $29.0 | | Remaining phases to be funded through private investment |
| 21139 | Vasco Road safety improvements | $19.3 | $19.3 | | 2000 Measure B sales tax project; includes developer fees |
| 21144 | I-80/Gilman Avenue interchange improvements (includes roundabouts) | $1.5 | $1.5 | | |
| 21145 | Corridor Management Program: signal interconnect, transit priority, SMART corridors and other improvements | $20.0 | $20.0 | | |
| 21451 | East 14th Street/Hesperian Boulevard/150th Street channelization improvements | $1.8 | $1.8 | | 2000 Measure B sales tax project |
| 21456 | I-580 auxiliary lanes between Santa Rita Road/Tassajara Road and Airway Boulevard interchanges | $11.9 | $11.9 | | 2000 Measure B sales tax project |
| 21464 | Paratransit for AC Transit, BART, non-mandated city programs, service gap coordination | $243.0 | $243.0 | | 2000 Measure B sales tax project |
| 21465 | Transit enhancements funded by transit center development funds | $4.4 | $4.4 | | 2000 Measure B sales tax project |
| 21466 | Washington Avenue/Beatrice Street interchange improvements | $1.4 | $1.4 | | 2000 Measure B sales tax project |
| 21470 | I-680/Sunol Boulevard ramp improvements (includes signal improvements and widening under existing structure) | $0.9 | $0.9 | | |
| 21480 | Route 84/Ardenwood Boulevard westbound offramp intersection improvements | $0.6 | $0.6 | | 100% locally funded |
| 21486 | Paseo Padre Parkway/Peralta Boulevard (Route 84) intersection improvements | $0.5 | $0.5 | | 100% locally funded |

[1] Financially Constrained Element refers to programmed local, regional, state, federal funds as well as discretionary state and federal funds anticipated to be available over the long term of the Transportation 2030 Plan.

[2] Vision Element refers to new local, regional, state and federal funds that may become available over the near to mid-term of the Transportation 2030 Plan through voter approval or legislative authorization.

## Alameda County

| Reference Number | Project/Program | Total Project Cost | Financially Constrained Element[1] | Vision Element[2] | Notes |
|---|---|---|---|---|---|
| | | In millions of 2004 dollars | | | |
| **System Efficiency** | | | | | |
| 21488 | Warren Avenue/Warm Springs Boulevard intersection improvements | $0.5 | $0.5 | | |
| 21489 | I-580/San Ramon Road/Foothill Road interchange improvements | $3.9 | $3.9 | | 100% locally funded |
| 21493 | I-580/I-680 Transportation Operations System (TOS) | $4.4 | $4.4 | | |
| 21896 | Route 84 vertical and horizontal alignment improvements in Fremont (from 3 miles east of I-680 to 5.1 miles east of I-680) | $28.4 | $28.4 | | State Highway Operation and Protection Program (SHOPP) project |
| 22002 | Extend HOV lane on I-880 northbound from existing HOV terminus at Bay Bridge approach to Maritime on-ramp | $5.0 | $5.0 | | Regional Measure 2 Toll Bridge Program |
| 22056 | Ed Roberts Campus at Ashby BART Station | $11.2 | $11.2 | | |
| 22059 | Improve downtown streets and pedestrian plaza surrounding Berkeley BART Station | $5.0 | $5.0 | | |
| 22080 | Oakland Citywide Intelligent Transportation Systems (ITS) (Phase 1) | $13.0 | $13.0 | | |
| 22082 | Reconstruct 7th Street/Union Pacific Railroad grade separation | $68.8 | $68.8 | | |
| 22100 | Replace I-880/Davis Street overcrossing | $10.2 | $10.2 | | |
| 22101 | Replace I-880/Marina Boulevard overcrossing | $8.0 | $8.0 | | |
| 22110 | University Avenue traffic management and streetscape enhancements to support enhanced bus service | $5.0 | $5.0 | | |
| 22469 | East Dublin/Pleasanton BART Station transit village | $22.0 | $22.0 | | |
| 22657 | I-205/I-580 Altamont Pass westbound truck lane | $58.9 | $58.9 | | |
| 22761 | I-880 from Hegenberger Road to I-980 operation improvements (includes freight movement to Port of Oakland) | $20.0 | $20.0 | | |
| 22763 | Reconstruct southbound I-880 on- and off-ramps in conjunction with I-880/5th Street seismic retrofit | $20.0 | $20.0 | | |
| 22769 | I-880/29th Avenue interchange safety and access improvements | $15.0 | $15.0 | | Regional Measure 2 Toll Bridge Program |
| 22770 | Traffic signal on Grand Avenue at Rose Avenue/Arroyo Avenue intersection in Piedmont | $0.3 | $0.3 | | |
| 22771 | Reconfigure Marin Avenue from San Pablo Avenue to Albany/Berkeley city line from 2 lanes to 1 lane in each direction to accommodate turn lane and bike lanes | $1.0 | $1.0 | | |
| 22774 | Bicycle and pedestrian improvements in Cherryland/Ashland and South Hayward areas as recommended in community-based transportation plan | $12.0 | $12.0 | | |
| 22775 | Broadway Avenue and Telegraph Avenue bus, BART, bicycle and taxi integration improvements | $10.6 | $10.6 | | 2000 Measure B sales tax project |

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## Alameda County

| Reference Number | Project/Program | Total Project Cost | Financially Constrained Element[1] | Vision Element[2] | Notes |
|---|---|---|---|---|---|
| | | In millions of 2004 dollars | | | |
| **System Efficiency** (continued from previous page) | | | | | |
| 22777 | I-580 on- and off-ramp improvements in Castro Valley | $25.2 | $25.2 | | 2000 Measure B sales tax project |
| 22778 | Lewelling Boulevard/East Lewelling Boulevard road modifications from Hesperian Boulevard to East 14th Street to improve channelization and accommodate pedestrian and bicycle facilities | $20.5 | $20.5 | | 2000 Measure B sales tax project |
| 22779 | Route 262/Warren Avenue/I-880 interchange improvements (including Union Pacific Railroad grade separation) (Phase 2) | $52.0 | $52.0 | | |
| 22781 | Traffic signals in Albany | $0.5 | $0.5 | | |
| 22782 | Transit-oriented development (including replacement parking) at MacArthur, West Oakland, and/or Coliseum BART Stations | $136.0 | $25.0 | $111.0 | Fruitvale Village Phase 2 included in Vision Element |
| 22784 | Narrow First Street between P Street and Maple Street from 4 lanes to 2 lanes to calm traffic and accommodate pedestrians | $10.0 | $10.0 | | |
| 22785 | Construct I-580 eastbound auxiliary lane from First Street to Vasco Road | $2.0 | $2.0 | | |
| 22786 | Install ramp metering on all existing ramps along I-580 in Livermore | $1.5 | $1.5 | | |
| 22787 | Realign Isabel/Vallecitos intersection for through movement on Route 84 | $0.9 | $0.9 | | |
| 21196 | Union City Intermodal Station (Phase 3), includes BART parking structure to support transit village | $20.0 | | $20.0 | |
| 22085 | Various grade separations at Union Pacific railroad tracks (including Market Street, Martin Luther King Way, High Street, 98th Street) | $169.0 | | $169.0 | |
| 22086 | I-880 incident management, ramp metering and traveler information | $20.0 | | $20.0 | |
| 22087 | I-880/Oak Street on-ramp reconstruction | $30.0 | | $30.0 | |
| 22088 | I-580/I-238 interchange truck bypass | $15.0 | | $15.0 | |
| 22089 | Various railroad track and signal improvements between Emeryville and Richmond, and Richmond and Pittsburg; new railroad tracks between Port of Oakland and Emeryville; and grade separation structures in Richmond at Marina Bay Parkway | $100.0 | | $100.0 | |
| 22508 | Alameda County lifeline transit priorities | $729.0 | | $729.0 | |
| 22647 | Low-income student bus pass program | $12.0 | | $12.0 | |
| 22659 | Ashby BART Station transit-oriented development in west parking lot, and station capacity improvements | $40.0 | | $40.0 | |
| 22671 | Construct direct HOV connection between southbound I-880 to westbound Route 84 (Dumbarton Bridge approach) | TBD | | TBD | |
| 22673 | I-880 modernization and ramp reconfiguration in Oakland as identified in the I-880 Safety & Operations Study | TBD | | TBD | |

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## Alameda County

| Reference Number | Project/Program | Total Project Cost | Financially Constrained Element[1] | Vision Element[2] | Notes |
|---|---|---|---|---|---|
| | | In millions of 2004 dollars | | | |
| **Strategic Expansion** | | | | | |
| 94012 | Union City Intermodal Station (Phase 1) | $33.9 | $33.9 | | |
| 94030 | Reconstruct I-880/Route 262 interchange and widen I-880 from Route 262 (Mission Boulevard) to the Santa Clara County line from 8 lanes to 10 lanes (8 mixed-flow and 2 HOV lanes) | $162.6 | $162.6 | | |
| 94504 | Construct 4-lane airport roadway (mostly on Port of Oakland property) from I-880/98th Avenue interchange to Oakland International Airport and then to Bay Farm Island | $114.7 | $114.7 | | 1986 Measure B sales tax project |
| 94506 | Widen Route 84 to 6-lane parkway from I-880 to Paseo Padre and 4-lane parkway from Paseo Padre to Mission Boulevard along the Historic Parkway alignment | $118.2 | $118.2 | | 1986 Measure B sales tax project |
| 22666 | Route 84 high-occupancy/toll (HOT) lanes in Tri-Valley | $215.0 | | $215.0 | |
| 98139 | ACE station/track improvements in Alameda County (including parking improvements at Vasco Road and downtown Livermore stations) | $20.1 | $20.1 | | |
| 21100 | I-580/Vasco Road interchange improvements | $40.0 | $40.0 | | |
| 21101 | Extend Tinker Avenue from Webster Street to 5th Avenue (includes Transit Center at College of Alameda) | $14.8 | $14.8 | | |
| 21105 | I-580/Isabel interchange improvements (Phases 1 and 2) | $100.0 | $100.0 | | 2000 Measure B sales tax project |
| 21123 | Union City Intermodal Station infrastructure improvements (Phase 2) | $50.0 | $50.0 | | |
| 21131 | BART-Oakland International Airport connector | $254.3 | $254.3 | | Resolution 3434 Regional Transit Expansion Program (includes Regional Measure 2 Toll Bridge Program funds) |
| 21132 | BART extension to Warm Springs | $678.0 | $678.0 | | Resolution 3434 Regional Transit Expansion Program (includes Regional Measure 2 Toll Bridge Program funds) |
| 21133 | New West Dublin/Pleasanton BART Station | $53.0 | $53.0 | | |
| 21134 | Rapid Bus Transit (RBT) in the San Pablo Corridor | $2.0 | $2.0 | | |
| 21149 | Upgrade express bus services in Dumbarton corridor | $4.0 | $4.0 | | |
| 21157 | I-80/Ashby Avenue/Shellmound Street interchange modifications | $2.8 | $2.8 | | |
| 21159 | AC Transit facilities expansion in northern Alameda County | $2.0 | $2.0 | | |
| 21185 | Extend Eden Road from Doolittle Drive to city of San Leandro water pollution control plant | $2.0 | $2.0 | | |
| 21417 | Dumbarton Express park-and-ride: 90 spaces on Decoto Road near I-880 by the Dumbarton Bridge (includes right-of-way acquisition) | $1.5 | $1.5 | | |

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## Alameda County

| Reference Number | Project/Program | Total Project Cost | Financially Constrained Element[1] | Vision Element[2] | Notes |
|---|---|---|---|---|---|
| | | In millions of 2004 dollars | | | |
| **Strategic Expansion** (continued from previous page) | | | | | |
| 21455 | Widen I-238 between I-580 and I-880 from 4 lanes to 6 lanes, includes auxiliary lanes on I-880 south of I-238 | $108.0 | $108.0 | | 2000 Measure B sales tax project |
| 21467 | Extend Westgate Parkway along eastern edge of Westgate Shopping Center between Williams Street and Davis Street | $10.6 | $10.6 | | 2000 Measure B sales tax project |
| 21472 | I-680/Bernal Avenue interchange improvements | $17.5 | $17.5 | | 100% locally funded |
| 21473 | Construct a 4-lane major arterial connecting Dublin Boulevard and North Canyons Parkway | $10.0 | $10.0 | | |
| 21475 | I-580/First Street interchange improvements | $30.0 | $30.0 | | |
| 21477 | I-580/Greenville Road interchange improvements | $35.0 | $35.0 | | |
| 21482 | Extend Fremont Boulevard to connect to I-880/Dixon Landing Road | $4.5 | $4.5 | | 100% locally funded |
| 21483 | Widen Stevenson Boulevard from I-880 to Blacow Road from 4 lanes to 6 lanes | $1.0 | $1.0 | | 100% locally funded |
| 21484 | Widen Kato Road from Warren Avenue to Milmont Drive | $3.0 | $3.0 | | 100% locally funded |
| 21487 | Widen Mowry Avenue from Mission Boulevard to Peralta Boulevard | $0.5 | $0.5 | | 100% locally funded |
| 21492 | Extend Scarlett Drive from Dublin Boulevard to Dougherty Road | $5.8 | $5.8 | | 2000 Measure B sales tax project |
| 21886 | Widen unimproved segment of Industrial Parkway between Whipple Road and improved segment of Industrial Parkway from 2 lanes to 4 lanes | $0.5 | $0.5 | | TEA-21 federal earmark project |
| 21992 | AC Transit bus corridor improvements | $20.0 | $20.0 | | |
| 22013 | I-580 corridor improvements (widen I-580 in both directions for HOV and auxiliary lanes from Tassajara Road to Greenville Road, construct HOV direct connector from westbound I-580 to southbound I-680, construct eastbound truck climbing lane from Flynn Road to Greenville Road [Altamont Summit], and acquire express buses) | $445.0 | $445.0 | | Resolution 3434 Regional Transit Expansion Program Project (includes Regional Measure 2 Toll Bridge Program funds) |
| 22664 | I-580 high-occupancy/toll (HOT) lanes from Greenville Road west to I-680 | $50.0 | | $50.0 | |
| 22021 | AC Transit transfer station and park-and-ride facility in central Alameda County | $3.5 | $3.5 | | |
| 22042 | Widen I-680 for northbound HOV lane from Route 237 to Stoneridge Drive (includes ramp metering and auxiliary lanes) | $165.0 | $165.0 | | Project is jointly funded by Alameda and Santa Clara counties |
| 22062 | Construct infrastructure for future Irvington BART Station | $2.4 | $2.4 | | |
| 22063 | Route 238 corridor improvements between Foothill Boulevard/Mattox Road to Mission Boulevard/Industrial Parkway (includes adding a lane throughout the corridor and grade separations at the Foothill/Mission/Jackson interchange) | $150.0 | $150.0 | | This project replaces the Route 238 Bypass project |
| 22084 | Oakland International Aiport North Field access road | $10.4 | $10.4 | | |

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## Alameda County

| Reference Number | Project/Program | Total Project Cost | Financially Constrained Element[1] | Vision Element[2] | Notes |
|---|---|---|---|---|---|
| | | In millions of 2004 dollars | | | |
| **Strategic Expansion** | | | | | |
| 22455 | AC Transit Bus Rapid Transit (BRT) and Enhanced Bus, Phase 1: Telegraph Avenue/International Boulevard corridor | $167.0 | $167.0 | | Resolution 3434 Regional Transit Expansion Program; Regional Measure 2 Toll Bridge Program |
| 21153 | AC Transit Bus Rapid (BRT) and Enhanced Bus, Phase 2: Telegraph Avenue/International Boulevard corridor | $164.4 | | $164.4 | |
| 22509 | Alameda/Oakland to San Francisco ferry service and Harbor Bay to San Francisco ferry service | $12.0 | $12.0 | | Resolution 3434 Regional Transit Expansion Program; Regional Measure 2 Toll Bridge Program |
| 22511 | Berkeley/Albany to San Francisco ferry service | $22.0 | $22.0 | | Resolution 3434 Regional Transit Expansion Program; Regional Measure 2 Toll Bridge Program |
| 22760 | Outer Harbor intermodal terminal (formerly known as Joint Intermodal Terminal (JIT) expansion) | $87.5 | $87.5 | | |
| 22764 | Construct auxiliary lane on I-880 between Hegenberger Road and 66th Avenue and shift merge point of the westbound Hegenberger Road to I-880 on-ramp | $4.6 | $4.6 | | |
| 22776 | Widen Route 84 from 2 lanes to 4 lanes from north of Pigeon Pass to Vineyard Avenue and 2 lanes to 4 or 6 lanes from Vineyard Avenue to Jack London Boulevard | $120.8 | $120.8 | | |
| 22796 | Construct 4-lane arterial connection between future eastern end of Dublin Boulevard in Dublin to North Canyons Parkway in Livermore | $10.0 | $10.0 | | 100% locally funded |
| 22990 | Widen Route 262 from I-880 to Warm Springs Boulevard (including reconstructing Route 262/I-880 and Route 262/Kato Road interchanges) and reconstruct Union Pacific Railroad underpasses | $38.3 | $38.3 | | |
| 22991 | Widen I-680 for southbound high-occupancy-vehicle (HOV)/high-occupancy/toll (HOT) lane from Route 237 to Route 84 (includes ramp metering and auxiliary lanes) | $223.0 | $223.0 | | 2000 Traffic Congestion Relief Program (TCRP) and 2000 Measure B sales tax project |
| 22064 | Convert southbound high-occupancy-vehicle (HOV) lane on I-680 between Route 84 and Route 237 into high-occupancy/toll (HOT) lane | $20.0 | $20.0 | | |
| 21093 | Route 92/Clawiter Road/Whitesell Street interchange improvements | $39.0 | $26.6 | $12.4 | |
| 21154 | AC Transit bus acquisition for transbay, express, subscription or local services | $38.0 | | $38.0 | |
| 22780 | AC Transit major corridor enhancements, Phase 1 — Bus Rapid elements: includes MacArthur Boulevard/West Grand Avenue; College Avenue/University Avenue; Shattuck Avenue/The Alameda; Foothill Boulevard; Sacramento Street/Market Street; Mission Boulevard/Outer East 14th Street; Hesperian Boulevard | $97.0 | $97.0 | | Resolution 3434 Regional Transit Expansion Program |
| 21160 | AC Transit major corridor enhancements, Phase 2 — beyond Bus Rapid improvements: MacArthur Boulevard/West Grand Avenue; College Avenue/University Avenue; Shattuck Avenue/The Alameda; Foothill Boulevard; Sacramento Street/Market Street; Mission Boulevard/Outer East 14th Street; Hesperian Boulevard | $216.0 | | $216.0 | |

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## Alameda County

| Reference Number | Project/Program | Total Project Cost | Financially Constrained Element[1] | Vision Element[2] | Notes |
|---|---|---|---|---|---|
| | | In millions of 2004 dollars | | | |
| **Strategic Expansion** (continued from previous page) | | | | | |
| 22106 | Extend Whitesell Street as a 4-lane arterial from Enterprise to Depot Road | $11.0 | | $11.0 | |
| 22432 | Construct Irvington BART Station | $76.0 | | $76.0 | |
| 22660 | Widen I-880 by adding one lane in each direction between Whipple and Jackson | TBD | | TBD | |
| 22667 | Tri-Valley rail extension from Dublin/Pleasanton BART Station to Greenville Road in the I-580 median | $900.0 | | $900.0 | |
| 22668 | Add northbound and southbound I-680 HOV lanes between Route 84 in Alameda County to Alcosta Boulevard in Contra Costa County | $180.0 | | $180.0 | |
| 22670 | Widen I-880 for HOV lanes northbound from Hacienda overcrossing to 98th Avenue and southbound from 98th Avenue to Marina Boulevard | TBD | | TBD | |

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## Contra Costa County

| Reference Number | Project/Program | Total Project Cost | Financially Constrained Element[1] | Vision Element[2] | Notes |
|---|---|---|---|---|---|
| | | In millions of 2004 dollars | | | |
| **Adequate Maintenance** | | | | | |
| 94553 | Local streets and roads pavement and non-pavement maintenance | $1,492.5 | $1,492.5 | | |
| 94036 | Metropolitan Transportation System (MTS) streets and roads pavement and non-pavement rehabilitation shortfall | $92.0 | $92.0 | | |
| 22404 | Non-Metropolitan Transportation Systems (MTS) streets and roads pavement and non-pavement rehabilitation shortfall | $604.9 | | $604.9 | |
| 94050 | Upgrade Route 4 to full freeway from I-80 to Cummings Skyway (Phase 2) | $50.0 | $50.0 | | |
| 94556 | BART (Contra Costa County share) — transit operating and capital improvement program (including replacement, rehabilitation, and minor enhancements, equipment, fixed facilities and other capital assets; does not include expansion) | $4,612.0 | $4,277.6 | $334.4 | |
| 94557 | AC Transit (Contra Costa County) — transit operating and capital improvement program (including replacement, rehabilitation, and minor enhancements for rolling stock, equipment, fixed facilities and other capital assets; does not include system expansion) | $1,021.7 | $972.4 | $49.3 | |
| 94558 | Central Contra Costa Transit Authority (CCCTA) — transit operating and capital improvement program (including replacement, rehabilitation, and minor enhancements for rolling stock, equipment, fixed facilities and other capital assets; does not include system expansion) | $801.4 | $801.4 | | |
| 21864 | Local bridge maintenance | $71.0 | $71.0 | | |
| **System Efficiency** | | | | | |
| 94046 | Non-capacity-increasing improvements to interchanges and parallel arterials to Route 4 | $9.1 | $9.1 | | |
| 94048 | Non-capacity-increasing improvements to interchanges and parallel arterials to I-80 | $12.3 | $12.3 | | |
| 98126 | Non-capacity-increasing improvements to interchanges and parallel arterials to I-680 and Route 24 | $9.1 | $9.1 | | |
| 94051 | I-680 auxiliary lane from Diablo Road to Sycamore Valley Road (Segment 1) in Danville and from Crow Canyon Road to Bollinger Canyon Road (Segment 3) in San Ramon | $22.5 | $22.5 | | |
| 94532 | Gateway Lamorinda Traffic Program | $14.8 | $14.8 | | 1988 Measure C sales tax project |
| 94538 | Route 4 transportation management system | $0.7 | $0.7 | | |
| 98127 | I-680/Alcosta Boulevard interchange improvements | $14.8 | $14.8 | | Includes developer fees |
| 98196 | Route 24 eastbound auxiliary lanes from Gateway Boulevard to Brookwood Road/Moraga Way | $6.8 | $6.8 | | |
| 98198 | Vasco Road safety and operational improvements in Contra Costa and Alameda counties | $18.0 | $18.0 | | |

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## Contra Costa County

| Reference Number | Project/Program | Total Project Cost | Financially Constrained Element[1] | Vision Element[2] | Notes |
|---|---|---|---|---|---|
| | | In millions of 2004 dollars | | | |
| **System Efficiency** (continued from previous page) | | | | | |
| 21202 | Regional and local pedestrian and bicycle improvements, including overcrossing locations to be determined | $39.3 | $39.3 | | |
| 22353 | I-680 southbound HOV gap closure between North Main Street and Livorna | $14.0 | $14.0 | | Regional Measure 2 Toll Bridge Program |
| 22602 | Construct I-680 auxiliary lanes in both directions from Sycamore Valley Road to Crow Canyon Road | $36.5 | $36.5 | | |
| 22637 | BART crossover at the Pleasant Hill BART Station | $25.0 | $25.0 | | Regional Measure 2 Toll Bridge Program |
| 21036 | Selected additional I-680 auxiliary lanes south of I-680/Route 24 interchange | $20.0 | | $20.0 | |
| 22004 | AC Transit Regional Lifeline Transit priorities | $50.0 | | $50.0 | |
| 22336 | Widen shoulders of Byron Highway and construct grade separation over Union Pacific railroad tracks | $20.0 | | $20.0 | |
| 22351 | I-680 northbound HOV gap closure between North Main Street and Route 242 | $43.0 | $43.0 | | |
| 22352 | I-680/Norris Canyon Road direct HOV ramps in San Ramon | $44.0 | $25.0 | $19.0 | |
| 22354 | I-680/Marina Vista interchange improvements | $8.0 | $8.0 | | |
| 22360 | I-80/San Pablo Dam Road interchange reconstruction | $25.0 | $25.0 | | |
| 22375 | Route 24 and I-680 Traffic Operations System (TOS) and fiber optic cable project | $5.0 | | $5.0 | |
| 22376 | Route 4 ramp meter,Traffic Operations System (TOS) and fiber optic cable project | $5.0 | | $5.0 | |
| 22378 | I-80 and I-580 Traffic Operations System (TOS) and fiber optic cable project | $5.0 | | $5.0 | |
| 22382 | Richmond Parkway/San Pablo Avenue grade separated interchange | $20.0 | $16.0 | $4.0 | |
| 22383 | Upgrade Richmond Parkway geometry to principal arterial standards | $50.0 | | $50.0 | |
| 22390 | Reconstruct Route 4/Willow Pass Road ramps in Concord | $15.0 | | $15.0 | |
| 22611 | Low-income student bus pass program | $14.5 | $14.5 | | |
| 22612 | I-680/Sycamore Valley Road direct HOV ramps in Danville | $66.0 | | $66.0 | |

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## Contra Costa County

| Reference Number | Project/Program | Total Project Cost | Financially Constrained Element[1] | Vision Element[2] | Notes |
|---|---|---|---|---|---|
| | | In millions of 2004 dollars | | | |
| **Strategic Expansion** | | | | | |
| 94045 | New express buses for I-80 HOV service (capital costs) | $16.9 | $16.9 | | |
| 94047 | Extend the northern limits of the I-80 westbound HOV lane from north of Cummings Skyway to Route 4 | $30.0 | $30.0 | | |
| 94052 | I-680 HOV lanes from Marina Vista interchange to North Main Street (southbound) and from Route 242 northbound to the Marina Vista interchange | $54.5 | $54.5 | | |
| 94054 | Martinez Intermodal Terminal Facility (Phases 1 and 2); includes construction of a new passenger rail station, bus facilities and parking | $31.3 | $31.3 | | |
| 96022 | Route 4 Bypass, Segment 1: construct a 6-lane facility from Route 4 to Laurel Road and a 4-lane facility from Laurel Road interchange to Lone Tree Way, and add interchanges at Laurel Road and Lone Tree Way | $85.0 | $85.0 | | Funded by East Contra Costa Regional Fee and Financing Authority (ECCRFFA) |
| 98104 | Widen Route 4 from Railroad Avenue to Loveridge: interchange improvements and highway widening to 6 mixed flow lanes and 2 HOV lanes | $100.0 | $100.0 | | |
| 98115 | Widen Ygnacio Valley/Kirker Pass Roads from 4 lanes to 6 lanes from Michigan Boulevard to Cowell Road | $6.0 | $6.0 | | 100% locally funded |
| 98130 | Widen Alhambra Avenue from 2 lanes to 4 lanes from Route 4 to McAlvey Drive | $14.6 | $14.6 | | |
| 98132 | Widen and extend Bollinger Canyon Road to 6 lanes from Alcosta Boulevard to Dougherty Road | $4.4 | $4.4 | | Includes developer fees |
| 98133 | Widen Pacheco Boulevard from 2 lanes to 4 lanes from Blum Road to Arthur Road | $15.0 | $15.0 | | |
| 98134 | Widen Dougherty Road to 6 lanes from Red Willow to Contra Costa County line | $45.0 | $45.0 | | |
| 98135 | Construct Windermere Parkway: 4 lanes from Bollinger Canyon Road extension to East Branch | $14.0 | $14.0 | | 100% locally funded through developer fees |
| 98136 | Construct East Branch as 4 lanes from Bollinger Canyon Road extension to Camino Tassajara | $14.0 | $14.0 | | 100% locally funded through developer fees |
| 98142 | Widen Route 4 from 4 lanes to 8 lanes with HOV lanes from Loveridge Road to Somersville Road | $70.0 | $70.0 | | |
| 98157 | Enhancements to AC Transit bus service for the San Pablo corridor in Contra Costa County | $8.5 | $8.5 | | |
| 98193 | Extend Panoramic Drive from North Concord BART Station to Willow Pass Road | $10.0 | $10.0 | | 100% locally funded |
| 98194 | Extend Commerce Avenue between Pine Creek and Waterworld Parkway to connect Willow Pass Road with Route 242/Concord Avenue interchange | $6.2 | $6.2 | | |

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## Contra Costa County

| Reference Number | Project/Program | Total Project Cost | Financially Constrained Element[1] | Vision Element[2] | Notes |
|---|---|---|---|---|---|
| | | In millions of 2004 dollars | | | |
| **Strategic Expansion** (continued from previous page) | | | | | |
| 98197 | Richmond intermodal transfer station (station building) | $4.1 | $4.1 | | |
| 98211 | I-80 eastbound HOV lane extension from Route 4 to the Crockett interchange just south of the Carquinez Bridge | $50.0 | $50.0 | | Regional Measure 2 Toll Bridge Program |
| 98221 | Route 4 Bypass, Segment 2, Phase 2: widen to 4 lanes from Lone Tree Way to Balfour Road | $12.0 | $12.0 | | Funded in part through East Contra Costa Regional Fee and Financing Authority (ECCRFA) |
| 98222 | Route 4 Bypass, Segment 1: Route 160 freeway-to-freeway connectors to and from the north | $23.0 | $23.0 | | Funded in part through East Contra Costa Regional Fee and Financing Authority (ECCRFA) |
| 98999 | Widen Route 4 from 4 lanes to 8 lanes from Somersville Road to Route 160 | $232.0 | $232.0 | | |
| 21203 | Express bus capital costs for commuter bus service from Contra Costa Express Bus Study | $6.8 | $6.8 | | |
| 21204 | Ancillary park-and-ride, transit access, express bus service enhancements | $6.8 | $6.8 | | |
| 21205 | I-680/Route 4 interchange freeway-to-freeway direct connectors: eastbound Route 4 to southbound I-680, and northbound I-680 to westbound Route 4 (Phases 1 and 2) | $112.0 | $112.0 | | |
| 21206 | Caldecott Tunnel fourth bore | $218.0 | $218.0 | | Includes $8 million from Alameda County and $20 million from Contra Costa County; cost assumes 2-lane bore on the north side |
| 21207 | Martinez Intermodal Terminal Facility (Phase 3 initial segment): 200 interim parking spaces (includes site acquisition, demolition and construction) | $6.8 | $6.8 | | |
| 21208 | Richmond Parkway Transit Center (includes signal reconfiguration/timing, new 700–800-space parking facility and security improvements at Hilltop park-and-ride lot) | $25.0 | $25.0 | | Regional Measure 2 Toll Bridge Program |
| 21209 | Hercules Transit Center relocation and expansion | $6.8 | $6.8 | | |
| 21210 | Capitol Corridor train station in Hercules | $20.0 | $20.0 | | 2000 Traffic Congestion Relief Program (TCRP) project |
| 21212 | Construct auxiliary lane along eastbound Route 4 and widen Hillcrest Avenue eastbound off-ramp from 1 lane to 2 lanes | $2.5 | $2.5 | | |
| 21213 | Pittsburg/Bay Point BART Station parking & lighting improvements (400 new spaces) | $4.0 | $4.0 | | |
| 21214 | Widen Wilbur Avenue over Burlington Northern Santa Fe Railroad from 2 lanes to 4 lanes | $8.5 | $8.5 | | |
| 21216 | Extend Laurel Road from Route 4 Bypass to Empire Avenue | $20.0 | $20.0 | | Funded in part through East Contra Costa Regional Fee and Financing Authority (ECCRFA) |
| 22600 | Widen Somersville Road Bridge in Antioch to 4 lanes | $1.0 | $1.0 | | |

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[2] Vision Element refers to new local, regional, state and federal funds that may become available over the near to mid-term of the Transportation 2030 Plan through voter approval or legislative authorization.

## Contra Costa County

| Reference Number | Project/Program | Total Project Cost | Financially Constrained Element[1] | Vision Element[2] | Notes |
|---|---|---|---|---|---|
| | | In millions of 2004 dollars | | | |
| **Strategic Expansion** | | | | | |
| 22601 | Route 4 Bypass, Segment 3: construct a 2-lane facility from Balfour Road to Walnut Boulevard, and upgrade Marsh Creek Road | $47.0 | $47.0 | | |
| 22603 | Richmond intermodal transfer station (680-space parking garage) | $13.0 | $13.0 | | |
| 21218 | Additional bus transit operations support | $130.0 | $130.0 | | |
| 21223 | I-680 transit corridor improvements (including express bus service enhancements and improved connections to BART) | $100.0 | | $100.0 | |
| 21211 | BART/East Contra Costa rail extension | $390.0 | $390.0 | | Resolution 3434 Regional Transit Expansion Program; Regional Measure 2 Toll Bridge Program |
| 22122 | Ferry service in western Contra Costa County (Richmond and Hercules or Rodeo), includes Phases 1 and 2. (capital reserve only; full project not included in the financially constrained element) | $57.0 | $46.0 | $11.0 | Resolution 3434 Regional Transit Expansion Program; Regional Measure 2 Toll Bridge Program funds; no operating funds identified |
| 22342 | Express bus service expansion along I-680 corridor; includes Phases 1 and 2 | $50.0 | $20.0 | $30.0 | |
| 22346 | Express bus service expansion along I-580 corridor | $10.0 | | $10.0 | |
| 22350 | I-680/Route 4 interchange improvements (Phases 3 through 5) and HOV flyover ramps | $182.0 | $182.0 | | |
| 22355 | I-80/Central Avenue interchange modifications | $23.0 | $5.0 | $18.0 | |
| 22358 | I-80/Route 4 interchange improvements | $100.0 | | $100.0 | |
| 22365 | Martinez Ferry landside improvements | $10.0 | $2.5 | $7.5 | |
| 22371 | Park-and-ride lots for the support of Regional Express Bus service | $20.0 | | $20.0 | |
| 22388 | Construct Route 242/Clayton Road northbound on-ramp | $16.0 | $16.0 | | |
| 22389 | Construct Route 242/Clayton Road southbound off-ramp | $15.0 | $15.0 | | |
| 22392 | Route 4/Range Road interchange construction | $10.0 | | $10.0 | |
| 22400 | Construct Route 239 from Brentwood to Tracy Expressway | $100.0 | | $100.0 | |
| 22402 | School bus programs in San Ramon and Lamorinda | $112.0 | $112.0 | | |
| 22510 | Antioch/Pittsburg to Martinez to San Francisco ferry service (capital reserve only; full project not included in the financially constrained element) | $33.0 | $33.0 | | Resolution 3434 Regional Transit Expansion Program; no operating funds identified |
| 22516 | Enhance Capitol Corridor regional rail service (West Contra Costa and Solano counties) | $70.0 | | $70.0 | |
| 22604 | Construct safety and operational improvements (including potential realignment) on Vasco Road from Brentwood to Alameda County line | $50.0 | | $50.0 | |

(Continues on next page)

## Contra Costa County

| Reference Number | Project/Program | Total Project Cost | Financially Constrained Element[1] | Vision Element[2] | Notes |
|---|---|---|---|---|---|
| | | In millions of 2004 dollars | | | |
| **Strategic Expansion** (continued from previous page) | | | | | |
| 22605 | Route 4 Bypass, Segments 2 & 3: widen and upgrade to full freeway (widen segment 2 to 6 lanes from Lone Tree to Balfour, and widen segment 3 to 4 lanes from Balfour to Walnut) | $130.0 | | $130.0 | |
| 22607 | Major streets widening, extensions and interchange improvements (East County); includes Phases 1 and 2 | $50.0 | $18.0 | $32.0 | |
| 22609 | Major streets widening, extensions and interchange improvements (Central County); includes Phases 1 and 2 | $200.0 | $48.0 | $152.0 | |
| 22610 | Major streets widening, extensions and interchange improvements (West County) | $50.0 | | $50.0 | |
| 22613 | Major streets widening, extensions and interchange improvements (Southwest County); includes Phases 1 and 2 | $50.0 | $14.4 | $35.6 | |
| 22614 | Martinez Intermodal Station (Phase 3): construction of an additional 425 spaces and auto/pedestrian bridges | $6.8 | $6.8 | | |
| 22981 | Widen Route 4 as continuous 4-lane arterial from Marsh Creek Road to San Joaquin County line | $100.0 | | $100.0 | |

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## Marin County

| Reference Number | Project/Program | Total Project Cost | Financially Constrained Element[1] | Vision Element[2] | Notes |
|---|---|---|---|---|---|
| | | In millions of 2004 dollars | | | |
| **Adequate Maintenance** | | | | | |
| 98511 | Local streets and roads pavement and non-pavement maintenance | $392.5 | $392.5 | | |
| 94055 | Metropolitan Transportation System (MTS) streets and roads pavement and non-pavement rehabilitation shortfall | $49.5 | $49.5 | | |
| 22405 | Non-Metropolitan Transportation Systems (MTS) streets and roads pavement and non-pavement rehabilitation shortfall | $206.3 | $111.9 | $94.4 | |
| 94572 | Golden Gate Transit (Marin County share) — Transit operating and capital improvement program (including replacement, rehabilitation and minor enhancements for rolling stock, equipment, fixed facilities and other capital assets; does not include expansion) | $1,903.3 | $1,761.3 | $142.0 | |
| 98525 | Seismic retrofit and upgrade (rehabilitation) of local bridges and overpasses shortfall | $16.7 | $4.0 | $12.7 | |
| 21865 | Local bridge maintenance | $23.5 | $23.5 | | |
| **System Efficiency** | | | | | |
| 21302 | Bicycle and pedestrian projects | $86.5 | $39.6 | $46.9 | Includes central Marin ferry access improvements project funded by Regional Measure 2 Toll Bridge Program |
| 21888 | Construct flyover from Sanitary Landfill Road east of U.S. 101 to southbound U.S. 101 | $6.9 | $6.9 | | 100% privately funded project |
| 22146 | Construct Class 1 bicycle path between Larkspur and Central San Rafael; includes rehabilitation of Cal Park Hill Tunnel | $12.5 | $12.5 | | Regional Measure 2 Toll Bridge Program |
| 22159 | Marin County U.S. 101 northbound ramp meter, Traffic Operation System (TOS), fiber optic cable project | $8.1 | $1.5 | $6.6 | |
| 22160 | Marin County U.S. 101 southbound and I-580 ramp meter, Traffic Operation System (TOS), fiber optic cable project | $10.1 | $1.8 | $8.3 | |
| 21315 | U.S. 101/Miller Creek Road interchange improvements in Marinwood: signalize ramp intersections | $1.0 | | $1.0 | |
| 22430 | Kerner Boulevard/Francisco Boulevard East/Andersen Drive underpass connector | $5.0 | | $5.0 | |
| 22436 | U.S. 101 southbound auxiliary lane from Lincoln to Mission | $4.0 | | $4.0 | |
| 22437 | U.S. 101 northbound auxiliary lane at Nave Drive | $20.3 | | $20.3 | |

## Marin County

| Reference Number | Project/Program | Total Project Cost | Financially Constrained Element[1] | Vision Element[2] | Notes |
|---|---|---|---|---|---|
| | | In millions of 2004 dollars | | | |
| **Strategic Expansion** | | | | | |
| 94563 | Widen U.S. 101 for HOV lanes (one in each direction) from Lucky Drive in Corte Madera to North San Pedro Road in San Rafael | $127.1 | $127.1 | | 2002 Traffic Congestion Relief Program (TCRP) project. Initial phase fully funded at $152.1 million. |
| 98154 | Widen U.S. 101 from Route 37 to the Sonoma County line from 4 lanes to 6 lanes (including 2 HOV lanes) and convert some highway sections to freeway standards | $200.0 | $200.0 | | Joint project between Marin and Sonoma counties. See companion Sonoma County project #98147 on page 122. |
| 98178 | U.S. 101/Sir Francis Drake Boulevard improvements | $0.5 | $0.5 | | Regional Measure 2 Toll Bridge Program |
| 98179 | U.S. 101/Tiburon Boulevard interchange improvements | $18.5 | $10.5 | $7.9 | Includes developer fees |
| 21303 | Local Marin bus service enhancements (capital only) | $58.6 | $26.7 | $31.9 | |
| 21306 | U.S. 101/Lucas Valley Road interchange improvements | $19.3 | $4.7 | $14.7 | |
| 21308 | Expand Manzanita park-and-ride lot | $22.4 | $10.1 | $12.3 | |
| 21325 | U.S. 101/Greenbrae interchange improvements | $47.5 | $47.5 | | Regional Measure 2 Toll Bridge Program |
| 22157 | Park-and-ride lots for support of Regional Express Bus service | $15.3 | $5.0 | $10.3 | |
| 21030 | I-580/U.S. 101 interchange improvements and new freeway-to-freeway connectors from westbound I-580 to northbound and southbound U.S. 101 | $101.7 | | $101.7 | |
| 21317 | Widen Route 1 from U.S. 101 to Flamingo Road | $4.3 | | $4.3 | |
| 22419 | Widen U.S. 101 for HOV lanes (one in each direction) from Lucky Drive in Corte Madera to North San Pedro Road in San Rafael | $24.9 | $24.9 | | |
| 22429 | U.S. 101/Manuel Freitas Parkway interchange improvements | $5.0 | | $5.0 | |

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## Napa County

| Reference Number | Project/Program | Total Project Cost | Financially Constrained Element[1] | Vision Element[2] | Notes |
|---|---|---|---|---|---|
| | | In millions of 2004 dollars | | | |
| **Adequate Maintenance** | | | | | |
| 94576 | Local streets and roads pavement and non-pavement maintenance | $218.1 | $218.1 | | |
| 94064 | Metropolitan Transportation System (MTS) streets and roads pavement and non-pavement rehabilitation shortfall | $65.8 | $65.8 | | |
| 22406 | Non-Metropolitan Transportation Systems (MTS) streets and roads pavement and non-pavement rehabilitation shortfall | $399.1 | | $399.1 | |
| 94070 | Transit service center on Soscol Avenue at Jackson Street and operational improvements to existing transit programs | $2.0 | $2.0 | | |
| 21871 | Local bridge maintenance | $24.6 | $24.6 | | |
| 22745 | Countywide local roads and streets maintenance | $150.8 | | $150.8 | |
| 22750 | Transportation project environmental mitigation | $11.3 | | $11.3 | |
| **System Efficiency** | | | | | |
| 22417 | Safe Routes to School bicycle and pedestrian program | $8.3 | | $8.3 | |
| 22740 | Route 29 safety and operational improvements | $38.0 | | $38.0 | |
| 22742 | Senior and disabled free fares | $6.8 | | $6.8 | |
| 22744 | Countywide traffic signal coordination | $5.0 | | $5.0 | |
| 22747 | Route 12/Route 29/Route 121 intersection improvements | $18.5 | | $18.5 | |
| **Strategic Expansion** | | | | | |
| 94071 | Replace Napa River (Maxwell) Bridge and widen from 2 lanes to 4 lanes on Route 121 over the Napa River in the city of Napa | $29.0 | $29.0 | | |
| 94076 | Trancas intermodal facility adjacent to interchange at Route 29 and Redwood Road/Trancas Street | $0.8 | $0.8 | | |
| 94575 | Construct grade-separated interchange at Route 29 and Redwood Road/Trancas Street | $53.0 | $53.0 | | |
| 94073 | Construct new southbound Route 221 to southbound Route 29 flyover (including auxiliary lane to Route 12/Route 29) | $20.0 | $20.0 | | |
| 94074 | Widen Route 12 (Jamieson Canyon) from I-80 in Solano County to Route 29 in Napa County from 2 lanes to 4 lanes (Napa County portion of project) | $52.0 | $52.0 | | See companion Solano County project #94152 on page 119. |
| 94075 | Route 12/Route 29/Airport interchange construction | $39.9 | $39.9 | | |
| 22743 | Express bus/pre-rail program | $100.0 | | $100.0 | |
| 22746 | Widen Route 29/First Street overcrossing to 4 lanes | $20.0 | | $20.0 | |
| 22749 | Safety and congestion relief program on arterials and county roads | $43.6 | | $43.6 | |

## San Francisco County

| Reference Number | Project/Program | Total Project Cost | Financially Constrained Element[1] | Vision Element[2] | Notes |
|---|---|---|---|---|---|
| | | In millions of 2004 dollars | | | |
| **Adequate Maintenance** | | | | | |
| 94627 | Local streets and roads pavement and non-pavement maintenance | $997.5 | $997.5 | | |
| 94078 | Metropolitan Transportation System (MTS) streets and roads pavement and non-pavement rehabilitation shortfall | $104.4 | $104.4 | | |
| 21548 | Non-Metropolitan Transportation System (MTS) streets and roads pavement and non-pavement rehabilitation | $1,361.7 | $8.0 | $1,353.7 | |
| 94625 | Upgrade Bernal Heights streets to accommodate emergency vehicle access | $2.4 | $2.4 | | 2003 Proposition K sales tax project |
| 94635 | BART (San Francisco County share) — transit operating and capital improvement program (including replacement, rehabilitation and minor enhancements, equipment, fixed facilities and other capital assets; does not include expansion except BART-to-SFO extension) | $3,669.5 | $3,403.5 | $266.0 | |
| 94636 | San Francisco Municipal Railway (Muni) — transit operating and capital improvement program (including replacement, rehabilitation and minor enhancements for rolling stock, equipment, fixed facilities and other capital assets; does not include system expansion) | $16,410.3 | $15,582.2 | $828.1 | |
| 22481 | Caltrain (San Francisco County share) — transit operating and capital improvement program (including replacement, rehabilitation and system enhancements for rolling stock, equipment, fixed facilities and other capital assets). Station Improvements (e.g., platforms) are included. | $1,256.2 | $1,076.7 | $179.5 | |
| 22482 | Golden Gate Transit (San Francisco County share) — transit operating and capital improvement program (including replacement, rehabilitation and minor enhancements for rolling stock, equipment, fixed facilities and other capital assets; does not include expansion) | $175.5 | $162.6 | $12.9 | |
| 94637 | Paratransit | $291.0 | $291.0 | | 2003 Proposition K sales tax project |
| 21505 | Local bridge seismic work | $8.0 | $4.0 | $4.0 | |
| 21526 | Transit rehabilitation and replacement | $73.0 | $8.0 | $65.0 | |
| 21533 | Street tree program | $95.0 | $95.0 | | 2003 Proposition K sales tax project |
| 21866 | Local bridge maintenance | $61.7 | $61.7 | | |
| 22248 | Wheelchair curb ramps program | $68.0 | $58.0 | $10.0 | 2003 Proposition K sales tax project |
| 22249 | New and upgraded streets program | $24.1 | $24.1 | | 2003 Proposition K sales tax project |
| 22426 | Islais Creek maintenance facility | $74.0 | $74.0 | | 2003 Proposition K sales tax project |
| 94090 | Bicycle and pedestrian program | $129.1 | $129.1 | | 2003 Proposition K sales tax project |

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## San Francisco County

| Reference Number | Project/Program | Total Project Cost | Financially Constrained Element[1] | Vision Element[2] | Notes |
|---|---|---|---|---|---|
| | | In millions of 2004 dollars | | | |
| **System Efficiency** | | | | | |
| 94624 | Traffic signals and signs program | $203.8 | $148.8 | $55.0 | 2003 Proposition K sales tax project |
| 94639 | Travel Demand Management (TDM) Program | $13.2 | $13.2 | | 2003 Proposition K sales tax project |
| 98593 | Integrated Transportation Management System (SFgo) Initial Phase | $5.9 | $5.9 | | 2003 Proposition K sales tax project |
| 98630 | BART Advanced Automatic Train Control System (county share) | $53.0 | $53.0 | | |
| 21501 | Bicycle projects and programs | $4.0 | $2.0 | $2.0 | |
| 21502 | Pedestrian projects and programs | $4.0 | $2.0 | $2.0 | |
| 21503 | Traffic calming program | $84.0 | $74.0 | $10.0 | 2003 Proposition K sales tax project |
| 21506 | Advanced Technology and Information Systems (SFgo) | $58.0 | $8.0 | $50.0 | |
| 21507 | Transit enhancement program; includes transit system connectivity and accessibility, service gap closures and expanded service | $95.0 | $50.0 | $45.0 | 2003 Proposition K sales tax project |
| 21529 | New and upgraded local streets and roads | $38.0 | $8.0 | $30.0 | |
| 21535 | Travel Demand Management (TDM) and planning for transit, bicycle and pedestrians (includes funding match for Transportation for Livable Communities/Housing Incentive Programs) | $4.0 | $2.0 | $2.0 | |
| 21544 | Balboa Park BART Station expansion | $34.5 | $9.7 | $24.8 | 2000 Traffic Congestion Relief Program (TCRP) project |
| 22420 | Bus Rapid Transit (BRT)/Transit Preferential Streets (TPS) Program (includes Geary Street Corridor BRT project) | $240.0 | $130.0 | $110.0 | 2003 Proposition K sales tax project |
| 22514 | Integrated Traffic Management System (SFgo) | $19.6 | $19.6 | | 2003 Proposition K sales tax project |
| **Strategic Expansion** | | | | | |
| 94632 | Third Street Light-Rail Project: light-rail transit extension to Bayview Hunters Point (Phase 1, initial operating segment) | $583.9 | $583.9 | | 2003 Proposition K sales tax and Regional Measure 2 Toll Bridge Program project; under construction |
| 21510 | Third Street Light-Rail Project: light-rail transit extension to Chinatown (Phase 2, Central Subway) | $694.0 | $694.0 | | 2003 Proposition K sales tax; Resolution 3434 Regional Transit Expansion Program. Phase 1 funding will count as local match toward Phase 2 for purposes of New Starts funding. The preliminary revised cost in the FY 2006 FTA Annual New Starts Report is $865 million in 2004 dollars. Confirmation of an updated cost is pending selection of a new locally preferred alternative in spring 2005. A formal amendment to the Transportation 2030 Plan to reflect the new locally preferred alternative and any adjustments to the funding plan will be considered after that date |

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## San Francisco County

| Reference Number | Project/Program | Total Project Cost | Financially Constrained Element[1] | Vision Element[2] | Notes |
|---|---|---|---|---|---|
| | | In millions of 2004 dollars | | | |
| **Strategic Expansion** (continued from previous page) | | | | | |
| 21549 | Construct access route linking Hunters Point Shipyard Redevelopment Area to U.S. 101 (involves environmental study, design and right-of-way acquisition) | $12.7 | $12.7 | | TEA 21 federal earmark project |
| 22255 | Construct Illinois Street Intermodal Bridge across Islais Creek to connect to Port of San Francisco's Pier 80 cargo terminal | $15.3 | $15.3 | | |
| 22412 | Additional light-rail vehicles (LRVs) to expand Muni rail service | $5.8 | $5.8 | | 2003 Proposition K sales tax project |
| 22415 | Expand historic streetcar service | $6.4 | $6.4 | | Regional Measure 2 Toll Bridge Program and 2003 Proposition K sales tax project |
| 22512 | Treasure Island to San Francisco ferry service (capital reserve only; full project not included in Financially Constrained Element) | $21.0 | $21.0 | | Resolution 3434 Regional Transit Expansion Program; no operating funds identified |

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## San Mateo County

| Reference Number | Project/Program | Total Project Cost | Financially Constrained Element[1] | Vision Element[2] | Notes |
|---|---|---|---|---|---|
| | | In millions of 2004 dollars | | | |
| **Adequate Maintenance** | | | | | |
| 94662 | Local streets and roads pavement and non-pavement maintenance | $1,354.6 | $1,354.6 | | |
| 94093 | Metropolitan Transportation System (MTS) streets and roads pavement and non-pavement rehabilitation shortfall | $29.0 | $29.0 | | |
| 22408 | Non-Metropolitan Transportation Systems (MTS) streets and roads pavement and non-pavement rehabilitation shortfall | $178.0 | | $178.0 | |
| 94656 | Devil's Slide bypass | $280.0 | $280.0 | | |
| 94664 | Caltrain (San Mateo County share) — transit operating and capital improvement program (including replacement, rehabilitation and system enhancements for rolling stock, equipment, fixed facilities and other capital assets). Station improvements (e.g., platforms) are included. | $1,254.7 | $1,076.7 | $178.0 | |
| 94666 | SamTrans — transit operating and capital improvement program (including replacement, rehabilitation and minor enhancements for rolling stock, equipment, fixed facilities and other capital assets; does not include system expansion) | $3,081.6 | $3,021.6 | $60.0 | |
| 21876 | BART (San Mateo County share) — transit operating and capital improvement program (including replacement, rehabilitation and minor enhancements, equipment, fixed facilities and other capital assets; does not include expansion except BART-to-SFO extension) | $1,384.1 | $1,283.8 | $100.3 | |
| 21630 | Continuation of SamTrans express service | $3.0 | $3.0 | | Regional Measure 2 Toll Bridge Program |
| 21867 | Local bridge maintenance | $31.3 | $31.3 | | |
| 22261 | Route 1/San Pedro Creek Bridge replacement project (initial phase) | $6.2 | $6.2 | | |
| 94667 | SamTrans Americans With Disabilities Act (ADA) services | $60.0 | $30.0 | $30.0 | 2004 Measure A sales tax project |
| **System Efficiency** | | | | | |
| 94100 | U.S. 101 auxiliary lanes from Marsh Road to Route 92 | $59.9 | $59.9 | | 1988 Measure A sales tax project under construction |
| 94644 | Route 92 westbound slow vehicle lane between Route 35 and I-280 | $58.0 | $12.5 | $45.5 | |
| 98176 | U.S. 101 auxiliary lanes from 3rd Avenue to Millbrae and U.S. 101/Peninsula Avenue interchange reconstruction | $81.7 | $81.7 | | |
| 21349 | U.S. 101/Ralston Avenue interchange improvement | $14.4 | $14.4 | | |
| 21602 | U.S. 101/Broadway interchange reconstruction | $56.0 | $56.0 | | |
| 21603 | U.S. 101/Woodside Road interchange improvements | $50.0 | $50.0 | | |
| 21606 | U.S. 101/ Willow Road interchange reconstruction | $49.5 | $49.5 | | |
| 21607 | U.S. 101/University Avenue interchange reconstruction | $4.9 | $4.9 | | |

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## San Mateo County

| Reference Number | Project/Program | Total Project Cost | Financially Constrained Element[1] | Vision Element[2] | Notes |
|---|---|---|---|---|---|
| | | in millions of 2004 dollars | | | |
| **System Efficiency** (continued from previous page) | | | | | |
| 21608 | U.S. 101 northbound and southbound auxiliary lanes from Marsh Road to Santa Clara County line | $91.2 | $91.2 | | |
| 21615 | I-280/Route 1 interchange safety improvements | $54.0 | $54.0 | | 1988 and 2004 Measure A sales tax project |
| 21623 | Caltrain local station improvements in San Mateo County | $67.0 | $67.0 | | 1988 Measure A sales tax project |
| 21624 | Transit-Oriented Development Incentives Program | $30.0 | $30.0 | | |
| 21626 | Caltrain grade separation program (San Mateo County) | $297.0 | $297.0 | | 1988 and 2004 Measure A sales tax project |
| 22223 | U.S. 101/Peninsula Avenue southbound ramps | $32.0 | $32.0 | | 2004 Measure A sales tax project |
| 22230 | I-280 auxiliary lanes from I-380 to Hickey Boulevard | $100.0 | $100.0 | | 2004 Measure A sales tax project |
| 22262 | U.S. 101 and Route 92 ramp metering, Traffic Operations System (TOS) and fiber communications project | $9.6 | $2.0 | $7.6 | |
| 22264 | I-280 North and I-380 ramp metering, Traffic Operations System (TOS), fiber communications project | $9.4 | $2.0 | $7.4 | |
| 22265 | I-280 South and Route 92 ramp metering, Traffic Operations System (TOS) and fiber communications project | $6.1 | $2.0 | $4.1 | |
| 22274 | Intelligent Transportation System (ITS) improvements in San Mateo County | $20.0 | $20.0 | | 2004 Measure A sales tax project |
| 22424 | BART Advanced Automatic Train Control (AATC) Phase V — Daly City to Millbrae/SFO | $53.0 | $53.0 | | |
| 22756 | U.S. 101/Candlestick interchange reconstruction | $47.7 | $47.7 | | |
| 21604 | U.S. 101 auxiliary lanes from Sierra Point to San Francisco County line | $6.0 | | $6.0 | |
| 21610 | U.S. 101 auxiliary lanes from San Bruno Avenue to Grand Avenue | $26.3 | | $26.3 | |
| 21893 | Route 92 between Half Moon Bay city limits and Pilarcitos Creek alignment and shoulder improvements | $30.0 | | $30.0 | |
| 22224 | Caltrain and California High-Speed Rail grade separations and station in Atherton | $66.1 | | $66.1 | |
| 22229 | U.S. 101/Sierra Point Parkway interchange replacement | $14.0 | | $14.0 | |

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## San Mateo County

| Reference Number | Project/Program | Total Project Cost | Financially Constrained Element[1] | Vision Element[2] | Notes |
|---|---|---|---|---|---|
| | | in millions of 2004 dollars | | | |
| **System Efficiency** | | | | | |
| 22231 | Widen north side of John Daly Boulevard/I-280 overcrossing for additional westbound traffic lane and dedicated right-turn lane for southbound I-280 off-ramp | $9.0 | | $9.0 | |
| 22232 | Construct streetscape improvements on Mission Street from San Pedro Road to John Daly Boulevard | $12.4 | | $12.4 | |
| 22751 | Route 1 operational and safety improvements in Half Moon Bay area | $30.0 | $30.0 | | 2004 Measure A sales tax project |
| **Strategic Expansion** | | | | | |
| 94643 | Widen Route 92 between Route 1 and Half Moon Bay city limits | $13.9 | $13.9 | | |
| 98204 | Construct Route 1 northbound and southbound lanes from Fassler Avenue to Westport Drive in Pacifica | $15.5 | $15.5 | | |
| 21605 | U.S. 101/Oyster Point Boulevard interchange improvements (Phases 2 and 3) | $40.0 | $40.0 | | |
| 22125 | Ferry service from South San Francisco to San Francisco | $30.0 | $30.0 | | Resolution 3434 Regional Transit Expansion Program; Regional Measure 2 Toll Bridge Program |
| 22236 | Study of Hillsdale Transit Center relocation | $3.0 | $3.0 | | |
| 22239 | Manor Drive/Route 1 overcrossing widening and improvement project | $12.0 | $12.0 | | 2004 Measure A sales tax project |
| 22268 | Countywide shuttle service programs | $68.0 | $38.0 | $30.0 | 2004 Measure A sales tax project |
| 22282 | U.S. 101 operational improvements near Route 92 | $10.0 | $10.0 | | 2004 Measure A sales tax project |
| 21609 | I-280/I-380 local access improvements from Sneath Lane and San Bruno Avenue to I-380 | $13.5 | | $13.5 | |
| 21892 | Widen Route 84 from 4 lanes to 6 lanes from El Camino Real to Broadway | $11.0 | | $11.0 | |
| 22120 | Ferry service from Redwood City to San Francisco to Alameda (capital reserve only; full project not included in Financially Constrained Element) | $23.0 | $23.0 | | Resolution 3434 Regional Transit Expansion Program; no operating funds identified |
| 22227 | Extend Geneva Avenue from Bayshore Boulevard to U.S. 101/Harney ramps from 4 lanes to 6 lanes (includes grade separation with Caltrain tracks and Tunnel Avenue) | $64.8 | | $64.8 | Expect 50% of the project to be funded through developer fees |
| 22228 | Extend Lagoon Way to connect to U.S. 101, Bayshore Boulevard and Guadalupe Canyon Parkway | $16.5 | | $16.5 | Expect 25% of the project to be funded through developer fees |
| 22267 | Union Pacific Railroad right-of-way acquisition for transit, bicycle and pedestrian use | $8.0 | | $8.0 | |
| 22271 | Widen Skyline Boulevard (Route 35) to 4-lane roadway from I-280 to Sneath Lane | $40.0 | | $40.0 | |

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## San Mateo County

| Reference Number | Project/Program | Total Project Cost | Financially Constrained Element[1] | Vision Element[2] | Notes |
|---|---|---|---|---|---|
| | | In millions of 2004 dollars | | | |
| **Strategic Expansion** (continued from previous page) | | | | | |
| 22279 | U.S. 101/Produce Avenue interchange project | $77.3 | | $77.3 | |
| 22615 | Dumbarton rail corridor and station improvements | $30.0 | $30.0 | | 2004 Measure A sales tax project |
| 21612 | Improve Dumbarton Bridge access to U.S. 101 | $70.0 | $70.0 | | 2004 Measure A sales tax project |
| 21613 | Route 92 improvements from San Mateo-Hayward Bridge to I-280, includes uphill passing lane from U.S. 101 to I-280 | $100.0 | $100.0 | | 2004 Measure A sales tax project |
| 22726 | South San Francisco to Alameda ferry service | $5.0 | $5.0 | | Resolution 3434 Regional Transit Expansion Program |
| 22226 | Caltrain Bayshore intermodal station: cross platform transfers with Third Street LRT and improve bus connections | $36.8 | $36.8 | | |
| 22732 | Hillsdale Transit Center relocation | $34.0 | | $34.0 | |

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## Santa Clara County

| Reference Number | Project/Program | Total Project Cost | Financially Constrained Element[1] | Vision Element[2] | Notes |
|---|---|---|---|---|---|
| | | In millions of 2004 dollars | | | |
| **Adequate Maintenance** | | | | | |
| 94609 | Local streets and roads pavement and non-pavement maintenance | $2,129.8 | $2,129.8 | | |
| 94106 | Metropolitan Transportation System (MTS) streets and roads pavement and non-pavement rehabilitation shortfall | $201.5 | $201.5 | | |
| 22903 | Non-Metropolitan Transportation System (MTS) streets and roads pavement and non-pavement maintenance | $1,316.9 | $100.0 | $1,216.9 | |
| 94610 | Valley Transportation Authority (VTA) — transit operating and capital improvement program (including replacement, rehabilitation and minor enhancements for rolling stock, equipment, fixed facilities and other capital assets; does not include system expansion) | $11,054.5 | $10,300.5 | $754.0 | |
| 94613 | Caltrain (Santa Clara County portion) — transit operating and capital improvement program (including replacement, rehabilitation and minor enhancements for rolling stock, equipment, fixed facilities and other capital assets; does not include system expansion) | $1,256.2 | $1,076.7 | $179.5 | |
| 22480 | BART (Santa Clara County share) — transit operating and capital improvement program (including replacement, rehabilitation, and minor enhancements, equipment, fixed facilities and other capital assets; does not include expansion) | $2,540.1 | $2,355.7 | $184.4 | |
| 20002 | Route 85 noise mitigation between I-280 and Route 87 | $7.0 | $7.0 | | |
| 21750 | VTA landscape restoration and graffiti removal program | $0.5 | $0.5 | | |
| 21754 | VTA soundwall program | $10.0 | $10.0 | | |
| 21868 | Local bridge maintenance | $129.4 | $129.4 | | |
| 22152 | Reconstruct Mathilda Avenue bridge over Caltrain tracks and Evelyn Avenue | $17.4 | $17.4 | | |
| 22807 | Caltrain local station improvements | $87.2 | $87.2 | | |
| 22853 | Alma Bridge replacement feasibility study | $0.3 | $0.3 | | |
| 22873 | Replace Loyola Bridge bicycle/pedestrian crossing over Foothill Expressway | $10.0 | $10.0 | | |
| 22890 | Adobe Creek bike/pedestrian bridge replacement | $0.5 | $0.5 | | |
| **System Efficiency** | | | | | |
| 96002 | Route 152 safety improvements from Uvas Creek to Route 156 near Gilroy | $21.1 | $21.1 | | |
| 98103 | Construct auxiliary lane on northbound Route 17 from Camden Avenue to Hamilton Avenue (including improvements to northbound on-ramp from Camden Avenue) | $12.0 | $12.0 | | |

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## Santa Clara County

| Reference Number | Project/Program | Total Project Cost | Financially Constrained Element[1] | Vision Element[2] | Notes |
|---|---|---|---|---|---|
| | | In millions of 2004 dollars | | | |
| **System Efficiency** (continued from previous page) | | | | | |
| 21558 | Foothill Expressway traffic and signal operational improvements from Edith Avenue to El Monte Avenue, and at Grant Avenue/St. Joseph Avenue intersection | $1.5 | $1.5 | | |
| 21703 | I-880/Coleman Avenue interchange improvements | $70.0 | $70.0 | | |
| 21705 | Route 237/El Camino Real/Grant Road intersection improvements | $3.0 | $3.0 | | |
| 21713 | Construct auxiliary lane on eastbound Route 237 from North First Street to Zanker Road | $15.0 | $15.0 | | |
| 21715 | Route 152/Route 156 interchange improvements | $27.3 | $27.3 | | |
| 21718 | Route 85 northbound and southbound auxiliary lanes between Homestead Avenue and Fremont Avenue | $19.0 | $19.0 | | |
| 21719 | I-880/I-280/Stevens Creek Boulevard interchange improvements (Phase I) | $14.0 | $14.0 | | |
| 21724 | Widen U.S. 101 for northbound and southbound auxiliary lane from Trimble Road to Montague Expressway | $10.0 | $10.0 | | |
| 21729 | Mary Avenue bicycle and pedestrian overcrossing at I-280 | $7.0 | $7.0 | | |
| 21730 | Los Gatos Creek Trail from Lincoln Avenue to Auzerais | $2.0 | $2.0 | | |
| 21731 | Los Gatos Creek Trail from San Fernando Street to San Carlos Street | $3.0 | $3.0 | | |
| 21733 | Uvas Creek Class 1 Trail connection to Gilroy Sports Park (Phases 1 and 2 from Thomas Road Bridge to Gilroy Sports Park) | $0.5 | $0.5 | | |
| 21735 | San Tomas Aquino Creek Trail (Route 237 to Santa Clara city limits) | $19.7 | $19.7 | | Route 237 to Mission College Boulevard segment is complete |
| 21737 | Borregas Avenue bicycle and pedestrian overcrossings at U.S. 101 and Route 237 | $7.4 | $7.4 | | |
| 21738 | West Little Llagas Creek bicycle and pedestrian pathway from Spring Road to Watsonville Road | $2.0 | $2.0 | | |
| 21739 | Union Pacific bicycle and pedestrian overcrossing from Gibraltar Court to Montague Expressway | $3.0 | $3.0 | | |
| 21741 | Bicycle and pedestrian improvements on Hamilton Avenue from Salmar to Creekside (Route 17) | $2.0 | $2.0 | | |
| 21742 | River Oaks Parkway bike and pedestrian bridge at Guadalupe River | $3.0 | $3.0 | | |
| 21743 | Bicycle improvements on Almaden Expressway between Ironwood Drive and Foxworthy | $2.0 | $2.0 | | |
| 21744 | Bike and pedestrian overcrossing at Caltrain railroad tracks near Brokaw Road | $5.0 | $5.0 | | |
| 21745 | De Anza Trail (Reach 3) | $3.0 | $3.0 | | |

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## Santa Clara County

| Reference Number | Project/Program | Total Project Cost | Financially Constrained Element[1] | Vision Element[2] | Notes |
|---|---|---|---|---|---|
| | | In millions of 2004 dollars | | | |
| **System Efficiency** | | | | | |
| 21746 | Cox Avenue/Southern Pacific railroad intersection improvements; includes improvements to grade crossings and bicycle paths | $1.0 | $1.0 | | |
| 21768 | Caltrain local station improvements | $110.0 | $110.0 | | |
| 21785 | U.S. 101/Blossom Hill Road interchange improvements | $7.0 | $7.0 | | |
| 21786 | U.S. 101/Hellyer Avenue interchange modifications | $11.0 | $11.0 | | 100% locally funded |
| 21831 | Montague Expressway level-of-service improvements from U.S. 101 to North First Street | $9.0 | $9.0 | | 1996 Measure B sales tax project (partial funding) |
| 21832 | Central Expressway level-of-service improvements from Bowers Avenue to De la Cruz Boulevard | $5.0 | $5.0 | | 1996 Measure B sales tax project (partial funding) |
| 21833 | Almaden Expressway level-of-service improvements from Blossom Hill Road to Branham Lane | $4.0 | $4.0 | | 1996 Measure B sales tax project (partial funding) |
| 21836 | San Tomas Expressway at Hamilton Avenue level-of-service improvements | $1.1 | $1.1 | | |
| 21837 | Capitol Expressway level-of-service improvements at McLaughlin Avenue | $0.5 | $0.5 | | |
| 21838 | Foothill Expressway level-of-service improvements at various locations | $2.0 | $2.0 | | |
| 22010 | Construct I-280 northbound second exit lane to Foothill Expressway | $1.0 | $1.0 | | |
| 22012 | Route 237 eastbound auxiliary lane improvement from North First Street to Zanker Road | $6.0 | $6.0 | | |
| 22022 | Palo Alto Smart Residential Arterials | $6.2 | $6.2 | | |
| 22121 | Loyola Drive/Foothill Expressway intersection improvements | $10.0 | $10.0 | | |
| 22168 | Convert one-way streets to two-way streets at various intersections in San Jose | $20.0 | $20.0 | | |
| 22246 | Blossom Hill Road pedestrian overcrossing and improvements | $6.8 | $6.8 | | |
| 22649 | Widen Campbell Avenue Bridge over Los Gatos Creek to accommodate pedestrian and bicycle facilities | $1.5 | $1.5 | | |
| 22801 | Bernardo Avenue pedestrian/bicycle undercrossing at Caltrain tracks | $5.0 | $5.0 | | |
| 22802 | Extend Hetch Hetchy pathway from Los Altos Avenue to El Camino Real | $0.4 | $0.4 | | |
| 22803 | Bicycle racks program | $0.2 | $0.2 | | |
| 22804 | Feasibility study of Stevens Creek Trail connection between Mountain View and Cupertino | $0.1 | $0.1 | | |
| 22806 | Capitol Avenue/Great Mall Parkway grade separation over Montague Expressway | $40.0 | $40.0 | | |

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## Santa Clara County

| Reference Number | Project/Program | Total Project Cost | Financially Constrained Element[1] | Vision Element[2] | Notes |
|---|---|---|---|---|---|
| | | In millions of 2004 dollars | | | |
| **System Efficiency** (continued from previous page) | | | | | |
| 22809 | DeWitt Avenue/Sunnyside Avenue intersection realignment | $5.0 | $5.0 | | |
| 22810 | San Martin Avenue/Monterey Road railroad crossing improvements | $1.5 | $1.5 | | |
| 22811 | Church Avenue/Monterey Highway railroad crossing improvements | $0.6 | $0.6 | | |
| 22812 | Capitol Expressway channelization improvements | $2.0 | $2.0 | | |
| 22813 | Wedgewood Avenue traffic and pedestrian safety improvements | $0.6 | $0.6 | | |
| 22814 | Extend Foothill Expressway westbound deceleration lane at San Antonio Road | $0.5 | $0.5 | | |
| 22815 | Miramonte Avenue bikeway improvements | $0.8 | $0.8 | | |
| 22816 | Oregon-Page Mill Expressway corridor operational improvements | $5.0 | $5.0 | | |
| 22817 | Widen Campbell Avenue to accommodate pedestrian and bicycle facilities | $2.0 | $2.0 | | |
| 22818 | Expressway and city street signals coordination | $10.0 | $10.0 | | |
| 22819 | Santa Teresa Boulevard/Fitzgerald Avenue intersection improvements | $0.7 | $0.7 | | |
| 22820 | Expressway traffic signal system upgrade to allow traffic count collection | $0.5 | $0.5 | | |
| 22821 | Transportation for Livable Communities (TLC) and Pedestrian Program | $37.4 | $37.4 | | |
| 22822 | Expressway traffic information outlets | $5.0 | $5.0 | | |
| 22826 | Rengstorff Avenue grade separation at Central Expressway and Caltrain tracks | $0.3 | $0.3 | | |
| 22827 | Magdalena Avenue/Country Club Drive intersection improvements | $0.4 | $0.4 | | |
| 22828 | Dixon Landing Road/North Milpitas Boulevard intersection improvements | $1.0 | $1.0 | | |
| 22829 | Fitzgerald Road/Masten Avenue intersection improvements | $0.8 | $0.8 | | |
| 22831 | Install traffic signal interconnect systems in Sunnyvale, Palo Alto, Mountain View and Los Altos | $2.5 | $2.5 | | |
| 22833 | Route 85/Almaden Expressway interim operational improvements | $2.0 | $2.0 | | |
| 22834 | Widen Route 237 for eastbound auxiliary lane from Mathilda Avenue to Fair Oaks Avenue | $5.0 | $5.0 | | |
| 22835 | Construct Sunnyvale Caltrain Station overpass/underpass for pedestrians and bicyclists | $1.8 | $1.8 | | |
| 22837 | Saratoga Avenue and Saratoga-Sunnyvale Road corridor signalization improvements | $0.5 | $0.5 | | |

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## Santa Clara County

| Reference Number | Project/Program | Total Project Cost | Financially Constrained Element[1] | Vision Element[2] | Notes |
|---|---|---|---|---|---|
| | | In millions of 2004 dollars | | | |
| **System Efficiency** | | | | | |
| 22839 | Convert HOV lane to mixed-flow lane on Central Expressway between San Tomas Expressway and De La Cruz (including removing HOV queue jump lanes at Bowers) | $0.1 | $0.1 | | |
| 22840 | Study to reconfigure Route 85/Almaden Expressway interchange (Caltrans Project Study Report/Project Development Study) | $0.3 | $0.3 | | |
| 22841 | Los Gatos Creek Trail from San Carlos Street to Guadalupe River | $5.9 | $5.9 | | |
| 22842 | Route 152/Ferguson Road intersection improvements | $1.0 | $1.0 | | |
| 22844 | Construct right-turn lane from westbound Monroe Street to San Tomas Expressway | $1.0 | $1.0 | | |
| 22845 | Construct U.S. 101 southbound auxiliary lane from Ellis Street to east-bound Route 237 | $3.0 | $3.0 | | |
| 22846 | Stevens Creek Trail Reach 4 Central from North Meadow to Dale Avenue neighborhood | $4.0 | $4.0 | | |
| 22847 | Route 9 bike lanes from Saratoga through Monte Sereno to Los Gatos | $1.7 | $1.7 | | |
| 22848 | Develop high-occupancy/toll (HOT) lane demonstration project on one freeway corridor in Santa Clara County | $2.0 | $2.0 | | |
| 22850 | Widen Almaden Plaza Way for a fifth lane at the approach of the Route 85/ Almaden Plaza Shopping Center/Alameda Expressway intersection | $0.8 | $0.8 | | |
| 22852 | Coyote Creek Trail from Hellyer County Park to Anderson Lake County Park | $1.3 | $1.3 | | |
| 22854 | I-280/Oregon-Page Mill interchange modification | $5.0 | $5.0 | | |
| 22855 | Coyote Creek Trail connection | $0.5 | $0.5 | | |
| 22856 | Lawrence Expressway-Saratoga Avenue corridor signal optimization | $0.1 | $0.1 | | |
| 22859 | Berryessa Creek Trail (Reach 3) between Abel Street and Gill Park | $0.6 | $0.6 | | |
| 22860 | Replace California Avenue undercrossing of Caltrain tracks and Alama Street | $5.0 | $5.0 | | |
| 22861 | Bicycle boulevards and bike lanes network | $5.0 | $5.0 | | |
| 22862 | Alum Rock School District area traffic-calming elements | $2.2 | $2.2 | | |
| 22863 | Borregas Avenue bike lanes | $0.2 | $0.2 | | |
| 22864 | Bollinger Road bike lanes from Anza Boulevard and Lawrence Expressway/Miller Boulevard | $0.4 | $0.4 | | |
| 22865 | Coyote Creek trail from Route 237/Bay Trail to Story/Keyes | $6.1 | $6.1 | | |
| 22866 | I-280/Lawrence Expressway signal phasing and timing coordination | $0.1 | $0.1 | | |

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## Santa Clara County

| Reference Number | Project/Program | Total Project Cost | Financially Constrained Element[1] | Vision Element[2] | Notes |
|---|---|---|---|---|---|
| | | In millions of 2004 dollars | | | |
| **System Efficiency** (continued from previous page) | | | | | |
| 22867 | Rancho Rinconada neighborhood traffic management plan | $0.6 | $0.6 | | |
| 22868 | Park Avenue bicycle and pedestrian enhancements | $1.0 | $1.0 | | |
| 22869 | Guadalupe River Trail from Alviso to I-880 | $5.1 | $5.1 | | |
| 22870 | Study of Uvas Creek trail extension from Gilroy Sports Park to Gavilan College | $0.2 | $0.2 | | |
| 22872 | Widen Montague Expressway for HOV lanes between I-880 and I-680 (6 mixed-flow, 2 HOV lanes) | $0.1 | $0.1 | | |
| 22875 | Widen Campbell Avenue Bridge over Los Gatos Creek for pedestrians and bicyclists | $1.5 | $1.5 | | |
| 22876 | Convert HOV lanes to mixed-flow lanes on Lawerence Expressway from U.S. 101 to Elko | $0.1 | $0.1 | | |
| 22877 | Design and construct bicycle/pedestrian trail along Sunnyvale east drainage trail from JWC Greenway to Tasman Drive | $0.5 | $0.5 | | |
| 22878 | Realign Wildwood Avenue to connect with Lawrence Expressway (includes new traffic signal at Lawrence Expressway/Wildwood Avenue intersection) | $4.3 | $4.3 | | |
| 22879 | U.S. 101 bike/pedestrian overcrossing at Branham Lane | $5.0 | $5.0 | | |
| 22880 | Winchester Boulevard streetscape improvements | $4.0 | $4.0 | | |
| 22881 | Construct auxiliary lanes on Lawrence Expressway at the Route 237 interchange | $3.0 | $3.0 | | |
| 22882 | Bascom Avenue Intelligent Transportation System (ITS) enhancements | $0.2 | $0.2 | | |
| 22883 | Modify medians on Lawrence Expressway from De Sota Avenue and St. Lawrence Drive/Lawrence Station Road for limited access | $0.5 | $0.5 | | |
| 22884 | Construct bike lanes on Evelyn Avenue from Sunnyvale Avenue to Reed Avenue | $0.4 | $0.4 | | |
| 22885 | Extend Los Gatos Creek Trail on west side from Hamilton Avenue to Campbell Avenue | $2.0 | $2.0 | | |
| 22886 | Widen McKean Road shoulders to accommodate bicycle improvements | $5.0 | $5.0 | | |
| 22887 | Widen south side of Moody Road from Elena Road westbound by 1,500 feet to accommodate bicycle and pedestrian improvements | $0.2 | $0.2 | | |
| 22889 | Stevens Creek Trail (Reach 4) south from Dale Avenue neighborhood to Mountain View High School | $5.0 | $5.0 | | |
| 22891 | Almaden Expressway pedestrian/bike overcrossing | $5.7 | $5.7 | | |

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## Santa Clara County

| Reference Number | Project/Program | Total Project Cost | Financially Constrained Element[1] | Vision Element[2] | Notes |
|---|---|---|---|---|---|
| | | In millions of 2004 dollars | | | |
| **System Efficiency** | | | | | |
| 22892 | Widen U.S. 101 southbound auxiliary lane from Great America Parkway to Lawrence Expressway | $2.0 | $2.0 | | |
| 22893 | Widen U.S. 101 for a northbound auxiliary lane from McKee/Julian Street to I-880 | $9.0 | $9.0 | | |
| 22895 | San Tomas Expressway/Route 17 interchange operational improvements | $2.0 | $2.0 | | |
| 22896 | Coyote Creek Trail (Reach 1) from North McCarthy Boulevard to South Ranch Drive | $1.2 | $1.2 | | |
| 22987 | Java Drive bikeway between Mathilda Avenue and Crossman Avenue | $0.4 | $0.4 | | |
| 22808 | Caltrain grade separation program in Santa Clara County | $10.0 | | $10.0 | |
| 22910 | Intelligent Transportation Systems (ITS) improvements on Santa Teresa Boulevard between Day Road and Mesa Road | $1.0 | | $1.0 | |
| 22992 | Pedestrian and bicycle improvements | $10.8 | | $10.8 | |
| 22993 | Local streets and roads improvements (including bicycle and pedestrian amenities, streetscape and signalization) | $62.6 | | $62.6 | |
| 22994 | I-280 corridor improvements | $56.0 | | $56.0 | |
| 22995 | Route 85 corridor improvements | $177.0 | | $177.0 | |
| 22996 | U.S. 101 Central Freeway corridor improvements (I-680/I-280 to Yerba Buena) | $42.0 | | $42.0 | |
| **Strategic Expansion** | | | | | |
| 94117 | Transit centers and park-and-ride lots | $14.0 | $14.0 | | |
| 98119 | Vasona Corridor light-rail extension from downtown San Jose to Winchester Boulevard in Campbell | $320.4 | $320.4 | | 1996 Measure B sales tax project |
| 98121 | Increase Caltrain service from San Jose to Gilroy, includes Caltrain corridor facilities and service improvements | $136.7 | $136.7 | | 1996 Measure B sales tax and 2000 Traffic Congestion Relief Program (TCRP) project |
| 98140 | I-680 Sunol Grade southbound HOV lanes, ramp metering and auxiliary lane from Route 84 to Route 237 (possible value pricing project) | $22.0 | $22.0 | | |
| 98175 | Widen Montague Expressway from 6 lanes to 8 lanes (6 mixed-flow and 2 HOV lanes) from I-680 to U.S. 101 | $26.4 | $26.4 | | Allows all-day HOV use |
| 20001 | U.S. 101/Bailey Avenue interchange improvements | $45.0 | $45.0 | | |
| 21714 | Widen U.S. 101 between Monterey Highway and Route 25 (includes an extension to Santa Teresa Boulevard) and construct a full interchange at U.S. 101/Route 25/Santa Teresa Boulevard | $85.0 | $85.0 | | |

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## Santa Clara County

| Reference Number | Project/Program | Total Project Cost | Financially Constrained Element[1] | Vision Element[2] | Notes |
|---|---|---|---|---|---|
| | | In millions of 2004 dollars | | | |
| **Strategic Expansion** (continued from previous page) | | | | | |
| 21716 | Widen Route 237 from 4 lanes to 6 lanes for HOV lanes between Route 85 and east of Mathilda Avenue | $36.0 | $36.0 | | |
| 21717 | Widen Route 25 from U.S. 101 to Route 156 from 2 lanes to 6 lanes (includes new interchange at Route 156) | $10.0 | $10.0 | | |
| 21720 | U.S. 101/Tennant Avenue interchange improvements | $10.0 | $10.0 | | |
| 21722 | U.S. 101 southbound Trimble Road/De La Cruz Boulevard/Central Expressway interchange improvements | $27.0 | $27.0 | | |
| 21723 | U.S. 101/Tully Road interchange modifications | $22.0 | $22.0 | | |
| 21727 | Route 87/U.S. 101 ramp connection to Trimble Road interchange | $28.0 | $28.0 | | Project is under construction |
| 21749 | Extend Butterfield Boulevard from Tennant Avenue to Watsonville Road | $14.0 | $14.0 | | |
| 21760 | Double-track segments of the Caltrain line between San Jose and Gilroy | $100.0 | $100.0 | | 2000 Measure A sales tax and 2000 Traffic Congestion Relief Program (TCRP) project |
| 21787 | Palo Alto Intermodal Transit Center (Phase I) | $50.0 | $50.0 | | |
| 21794 | Bus Rapid Transit corridor: El Camino Real (Line 22) (Phase 1 and 2) | $7.0 | $7.0 | | To be determined by a Major Investment Study (MIS) |
| 21797 | Route 17 bus service improvements between downtown San Jose and downtown Santa Cruz | $1.0 | $1.0 | | 2000 Measure A sales tax project |
| 21922 | San Jose International Airport connections to Guadalupe Light-Rail Transit (LRT) | $512.0 | $512.0 | | 2000 Measure A sales tax project |
| 21923 | New Bus Rapid Transit corridor: along Stevens Creek Boulevard, El Camino Phase IIIB and Monterey Highway | $46.0 | $46.0 | | 2000 Measure A sales tax project |
| 22015 | I-680/I-880 cross connector (environmental and conceptual engineering) | $7.0 | $7.0 | | Includes improvements in Alameda County |
| 22018 | U.S. 101/Mathilda Avenue interchange improvements | $13.0 | $13.0 | | |
| 22118 | Extend Hill Road to Peet Avenue | $5.0 | $5.0 | | |
| 22134 | Widen U.S. 101 southbound from Story Road to Yerba Buena Road | $11.0 | $11.0 | | |
| 22138 | Widen U.S. 101 to 4 lanes from Route 25 to Santa Clara/San Benito County line | $140.0 | $140.0 | | |
| 22140 | Widen U.S. 101 between Cochrane Road and Monterey Highway from 6 lanes to 8 lanes | $164.0 | $164.0 | | |
| 22142 | U.S. 101/Capitol Expressway interchange improvements (includes new northbound on-ramp from Yerba Buena Road) | $20.0 | $20.0 | | |

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## Santa Clara County

| Reference Number | Project/Program | Total Project Cost | Financially Constrained Element[1] | Vision Element[2] | Notes |
|---|---|---|---|---|---|
| | | In millions of 2004 dollars | | | |
| **Strategic Expansion** | | | | | |
| 22145 | Widen westbound Route 237 on-ramp from Route 237 to northbound U.S. 101 to 2 lanes and add auxiliary lane on northbound U.S. 101 from Route 237 on-ramp to Ellis Street interchange | $8.0 | $8.0 | | |
| 22153 | Extend Mary Avenue north across Route 237 | $50.0 | $50.0 | | |
| 22156 | Route 85 northbound to Route 237 eastbound connector ramp improvements | $22.0 | $22.0 | | |
| 22162 | Route 237 westbound to Route 85 southbound connector ramp improvements | $18.0 | $18.0 | | |
| 22164 | Route 237 westbound on-ramp at Middlefield Road | $8.0 | $8.0 | | |
| 22169 | Widen Coleman Avenue from Hedding Street and a future Autumn Street extension from 4 lanes to 6 lanes | $14.0 | $14.0 | | |
| 22170 | Construct I-880 overcrossing on Charcot Avenue between Paragon Drive and Old Oakland Road as a reliever route to Montague Expressway and Brokaw Road | $36.0 | $36.0 | | |
| 22171 | Extend Autumn Street from Julian Street to Coleman Avenue to connect I-880 to west part of downtown San Jose | $10.0 | $10.0 | | |
| 22175 | Widen Almaden Expressway between Coleman Road and Blossom Hill Road to 8 lanes | $8.0 | $8.0 | | |
| 22176 | Widen Berryessa Road from I-680 to Commercial Street from 4 lanes to 6 lanes | $7.0 | $7.0 | | |
| 22177 | Widen Branham Lane from Vista Park Drive to Snell Avenue from 4 lanes to 6 lanes | $8.2 | $8.2 | | |
| 22178 | Replace 4-lane structure with 6-lane bridge on Calaveras Boulevard over Union Pacific Railroad from Abel Street to Milpitas Boulevard | $40.0 | $40.0 | | |
| 22179 | Widen Central Expressway between Lawrence Expressway and San Tomas Expressway from 4 lanes to 6 lanes | $10.0 | $10.0 | | |
| 22180 | Widen Central Expressway between Lawrence Expressway and Mary Avenue to provide auxiliary acceleration and/or deceleration lanes | $13.0 | $13.0 | | |
| 22181 | Construct 4-lane bridge over Guadalupe River between Almaden Expressway and Fell Avenue to connection sections of Chynoweth Avenue | $15.0 | $15.0 | | |
| 22182 | Gilman Road/Arroyo Circle traffic signal and intersection improvements | $7.0 | $7.0 | | |
| 22183 | Widen Lucretia Avenue from 2 lanes to 4 lanes from Story Road to Phelan Avenue | $9.0 | $9.0 | | |
| 22185 | Widen Oakland Road from 4 lanes to 6 lanes from U.S. 101 to Montague Expressway | $10.0 | $10.0 | | |

(Continues on next page)

## Santa Clara County

| Reference Number | Project/Program | Total Project Cost | Financially Constrained Element[1] | Vision Element[2] | Notes |
|---|---|---|---|---|---|
| | | In millions of 2004 dollars | | | |
| **Strategic Expansion** (continued from previous page) | | | | | |
| 22186 | Widen San Tomas Expressway to 8 lanes between Route 82 and Williams Road | $28.0 | $28.0 | | |
| 22422 | Widen Senter Road to 6 lanes between Tully Road and Capitol Expressway | $6.8 | $6.8 | | |
| 22805 | Widen Dixon Landing Road from 4 to 6 lanes between North Milpitas Boulevard and I-880 | $0.5 | $0.5 | | |
| 22823 | Widen Snell Avenue from 4 lanes to 6 lanes from Branham Lane to Chynoweth Avenue | $2.8 | $2.8 | | |
| 22830 | Widen First Street/Route 152 to add one eastbound lane from Church Street to Monterey Street | $1.2 | $1.2 | | |
| 22832 | Widen Route 152 from 2 lanes to 4 lanes from Miller Slough to Holsclaw Road (includes widening existing structures over Llagas Creek and old Llagas Creek and new traffic signal at Gilroy Foods/WTI Trucking entrance) | $10.0 | $10.0 | | |
| 22836 | Widen Quito Road between Saratoga Avenue and Bucknall Road for channelization and pedestrian and bicycle lane improvements | $1.9 | $1.9 | | |
| 22838 | Study of Lawrence Expressway/Calvert/I-280 interchange improvements (Caltrans Project Study Report) | $0.5 | $0.5 | | |
| 22843 | Widen Lawrence Expressway from 6 lanes to 8 lanes between Moorpark/Bollinger and south of Calvert | $4.0 | $4.0 | | |
| 22857 | Widen U.S. 101 for a southbound auxiliary lane from I-880 to McKee Road/Julian Street | $8.0 | $8.0 | | |
| 22858 | Widen Union Avenue from 2 lanes to 4 lanes from Los Gatos-Almaden Road to Ross Creek | $1.7 | $1.7 | | |
| 22871 | Extend 2-lane Uvas Park Drive from Laurel Drive to Wren Avenue | $2.2 | $2.2 | | |
| 22874 | Route 85/Fremont Avenue ramp improvements | $2.0 | $2.0 | | |
| 22888 | Widen King Road to 4 lanes from Aborn Road and Barberry Lane | $1.0 | $1.0 | | |
| 22894 | U.S. 101 Mabury Road/Taylor Street new interchange (environmental and preliminary engineering) | $2.0 | $2.0 | | |
| 22897 | Widen I-680 northbound for an HOV lane from Route 84 to Calavaras Boulevard | $25.0 | $25.0 | | |
| 22902 | Future rail corridors to be determined by Major Investment Studies (MIS) | $188.0 | $188.0 | | |
| 22979 | U.S. 101/Zanker Road/Skyport Drive/Fourth Street interchange improvements (environmental and preliminary engineering) | $7.0 | $7.0 | | |
| 23702 | U.S. 101/Buena Vista Avenue interchange construction | $20.0 | | $20.0 | |

[1] Financially Constrained Element refers to programmed local, regional, state, federal funds as well as discretionary state and federal funds anticipated to be available over the long term of the Transportation 2030 Plan

[2] Vision Element refers to new local, regional, state and federal funds that may become available over the near to mid-term of the Transportation 2030 Plan through voter approval or legislative authorization.

## Santa Clara County

| Reference Number | Project/Program | Total Project Cost | Financially Constrained Element[1] | Vision Element[2] | Notes |
|---|---|---|---|---|---|
| | | In millions of 2004 dollars | | | |
| **Strategic Expansion** | | | | | |
| 21770 | Extend Caltrain from Gilroy to Salinas | $71.0 | $23.5 | $47.5 | 2000 Traffic Congestion Relief Program (TCRP) project |
| 22017 | Construct Route 237 eastbound to Mathilda Avenue flyover offramp | $17.0 | | $17.0 | |
| 22014 | Downtown/East Valley: Santa Clara/Alum Rock corridor and Capitol Expressway light-rail extension to Nieman Boulevard (environmental, preliminary engineering and right-of-way acquisition) | $97.0 | $97.0 | | 2000 Measure A sales tax project; Resolution 3434 Regional Transit Expansion Program |
| 22019 | Downtown/East Valley: Santa Clara/Alum Rock corridor and Capitol Expressway light-rail extension to Nieman Boulevard (construction reserve only; full project not included in Financially Constrained Element) | $453.0 | $453.0 | | 2000 Measure A Sales Tax Project; Resolution 3434 Regional Transit Expansion Program; see Santa Clara project #22909 below |
| 22091 | Limited access 4-lane facility and partial new alignment between I-5 and U.S. 101 | $432.0 | | $432.0 | Possible toll road |
| 21921 | BART extension into Santa Clara County (environmental, preliminary engineering and right-of-way acquisition) | $848.0 | $848.0 | | 2000 Measure A sales tax project; Resolution 3434 Regional Transit Expansion Program |
| 22800 | BART extension into Santa Clara County (construction reserve only; full project not included in Financially Constrained Element) | $3,301.0 | $3,301.0 | | Resolution 3434 Regional Transit Expansion Program; operating funds not identified; see Santa Clara project #22909 below |
| 22909 | Operating costs for transit services including BART and Downtown/East Valley light-rail transit | $2,700.0 | | $2,700.0 | |
| 22997 | U.S. 101 North freeway corridor improvements (north of I-680/I-280 interchange) | $231.0 | | $231.0 | |

## Solano County

| Reference Number | Project/Program | Total Project Cost | Financially Constrained Element[1] | Vision Element[2] | Notes |
|---|---|---|---|---|---|
| | | In millions of 2004 dollars | | | |
| **Adequate Maintenance** | | | | | |
| 94681 | Local streets and roads pavement and non-pavement maintenance | $367.8 | $367.8 | | |
| 94138 | Metropolitan Transportation System (MTS) streets and roads pavement and non-pavement rehabilitation shortfall | $43.6 | $43.6 | | |
| 94139 | Non-Metropolitan Transportation System (MTS) streets and roads pavement and non-pavement maintenance shortfall | $551.2 | $41.0 | $510.2 | |
| 94683 | Vallejo Transit — transit operating and capital improvement program (including replacement, rehabilitation, and minor enhancements for rolling stock, equipment, fixed facilities and other capital assets; does not include system expansion) | $572.9 | $562.5 | $10.4 | |
| 21869 | Local bridge maintenance | $29.3 | $29.3 | | |
| 22711 | Senior/disabled transit capital and operating funds | $129.2 | | $129.2 | |
| **System Efficiency** | | | | | |
| 94153 | Non-capacity-increasing safety projects to improve congested intersections, local arterials and highways | $80.0 | $3.0 | $77.0 | |
| 98212 | Local bicycle and pedestrian projects | $56.0 | $22.0 | $34.0 | |
| 21823 | Route 12 from Sacramento River to I-80 operational and safety improvements as identified in Route 12 Major Investment Study (MIS) | $42.7 | $42.7 | | State Highway Operation and Protection Program (SHOPP) project |
| 22623 | Widen Nut Tree overcrossing from 2 lanes to 4 lanes (includes left-turn lane and ramp improvements) | $10.0 | $10.0 | | |
| 22625 | I-80/North Texas Street interchange improvements (includes relocation of North Texas Street, new connection between Manuel Campos Parkway and existing bridge, new eastbound on- and off-ramps and new bridge) | $14.0 | $14.0 | | 100% locally funded |
| 22630 | Parkway Boulevard overcrossing of Union Pacific Railroad grade separation | $9.5 | $9.5 | | 100% locally funded |
| 22631 | Route 12 westbound (Red Top Road) truck lane | $10.2 | $10.2 | | State Highway Operation and Protection Program (SHOPP) project |
| **Strategic Expansion** | | | | | |
| 94148 | Construct rail stations and track improvements for Amtrak Capitol Corridor service from Sacramento to Oakland | $40.0 | $20.0 | $20.0 | Includes funding from Regional Measure 2 Toll Bridge Program and State Transportation Improvement Program (STIP) funds for Benicia Siding Project |
| 94150 | I-80/I-680/Route 12 interchange improvements (Phase 1); includes 2-lane connectors between I-80 and I-680 and a fifth lane in each direction on I-80 between I-680 and Route 12. | $18.6 | $18.6 | | This is the auxiliary lane project. |

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## Solano County

| Reference Number | Project/Program | Total Project Cost | Financially Constrained Element[1] | Vision Element[2] | Notes |
|---|---|---|---|---|---|
| | | In millions of 2004 dollars | | | |
| **Strategic Expansion** | | | | | |
| 21807 | I-80/I-680/Route 12 interchange improvements (Phase 2); widen I-80 from Route 12 to Air Base Parkway for HOV lanes (includes a braided ramp from I-680 to Suisun Valley Road and improvements to Red Top Road) | $139.5 | $139.5 | | Partially funded with Regional Measure 2 Toll Bridge Program funds |
| 22701 | I-80/I-680/Route 12 interchange improvements (Phase 3); including partial relocation/reconstruction of Cordelia truck weigh station, ramp improvements and auxiliary lanes (as identified in I-80/I-680/I-780 Corridor Study) | $532.5 | $100.0 | $432.5 | |
| 94151 | Construct 4-lane Jepson Parkway from Route 12 to Leisure Town Road | $101.1 | $70.4 | $30.7 | Segments 1, 3 and 5 are completed |
| 94152 | Widen Route 12 (Jamieson Canyon) from I-80 in Solano County to Route 29 in Napa County from 2 lanes to 4 lanes (Solano County portion of project) | $51.0 | $51.0 | | See companion Napa County project #94074 on page 99 |
| 94675 | Widen Route 37 from Napa River Bridge to Route 29 from 2-lane expressway to 4-lane freeway (not including Routes 29/37 interchange), planting and environmental mitigation | $58.0 | $58.0 | | |
| 98168 | Intercity bus service and transit hubs in Solano County (capital costs) | $78.0 | $25.0 | $53.0 | |
| 21341 | Fairfield/Vacaville multimodal rail station for Capitol Corridor intercity rail service in Solano County (Phases 1, 2 and 3) | $34.0 | $34.0 | | Includes Regional Measure 2 Toll Bridge Program funds |
| 21348 | Install a second span along existing Green Valley Bridge to facilitate 4 lanes of travel each way and an acceleration/deceleration lane in each direction | $16.8 | $16.8 | | 100% locally funded |
| 21809 | Match for improvements to local interchanges and arterials | $418.0 | $2.0 | $416.0 | |
| 22626 | Route 29/Route 37 interchange improvements (includes new 4-lane freeway on new alignment between Enterprise Street and Diablo Street) | $62.0 | $62.0 | | 100% locally funded |
| 22628 | Realign Wilson Avenue from Florida Street to Route 37 to accommodate pedestrians and bicyclists (Phase 2) | $16.5 | $16.5 | | 100% locally funded |
| 22629 | New Vallejo Ferry Terminal intermodal facility | $56.0 | $46.9 | $9.1 | Partially funded with Regional Measure 2 Toll Bridge Program funds |
| 22632 | American Canyon Road ramp improvements at I-80 | $8.2 | $8.2 | | 100% locally funded |
| 22633 | Widen Azuar Drive/Cedar Avenue from 2 lanes to 4 lanes from P Street to Residential Parkway | $9.0 | $9.0 | | |
| 22634 | Vacaville intermodal station (400-space parking garage and 200-space surface parking lot) | $9.0 | $9.0 | | Partially funded with Regional Measure 2 Toll Bridge Program funds |
| 22700 | Construct parallel corridor north of I-80 from Red Top Road to Abernathy Road (the western section extends from the railroad crossing on Red Top Road to Business Center Drive) | $68.0 | $68.0 | | Regional Measure 2 Toll Bridge Program and 2000 Traffic Congestion Relief Program (TCRP) project |
| 22703 | I-80/I-680/I-780 corridor mid- and long-term capacity and operation improvements except transit hubs and park-and-ride lots (as identified in I-80/I-680/I-780 Corridor Study) | $1,058.1 | $94.4 | $963.7 | |

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## Solano County

| Reference Number | Project/Program | Total Project Cost | Financially Constrained Element[1] | Vision Element[2] | Notes |
|---|---|---|---|---|---|
| | | In millions of 2004 dollars | | | |
| **Strategic Expansion** (continued from previous page) | | | | | |
| 22794 | Curtola Transit Center improvements (construct parking structure, improve off-street bus transfer facilities and improve bus ingress and egress) | $12.0 | $12.0 | | Partially funded with Regional Measure 2 Toll Bridge Program funds |
| 22795 | Fairfield Transportation Center improvements (Phase 3 — add 600 parking spaces) | $14.5 | $14.5 | | Partially funded with Regional Measure 2 Toll Bridge Program funds |
| 22898 | Widen I-80 from 6 lanes to 8 lanes from west of Meridian Road to west of Kidwell Road | $60.0 | $60.0 | | |
| 22985 | Benicia Intermodal Transportation Station | $30.0 | $4.3 | $25.7 | Partially funded with Regional Measure 2 Toll Bridge Program funds |
| 22986 | Widen and improve Broadway from 2 lanes to 4 lanes between Route 37 and Mini Drive | $4.9 | $4.9 | | 100% locally funded |
| 22708 | Route 12 from I-80 to Sacramento Bridge as identified in Route 12 Major Investment Study (MIS) | $3.3 | $3.3 | | |
| 21824 | Route 12 from I-80 to Sacramento Bridge long-term capacity and operational improvements (Phase 2) as identified in Route 12 Major Investment Study (MIS) | $101.7 | | $101.7 | |
| 22712 | Expanded express bus capital and operating funds | $71.8 | | $71.8 | |
| 22716 | Vallejo Baylink ferry service capital and operating funds (fifth high-speed boat) | $50.0 | | $50.0 | |
| 22988 | Commuter Rail Service — Sacramento to Oakland (capital and operating funds) with new stations in Fairfield/Vacaville, Dixon and Benicia | $113.0 | | $113.0 | |

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[2] Vision Element refers to new local, regional, state and federal funds that may become available over the near to mid-term of the Transportation 2030 Plan through voter approval or legislative authorization.

## Sonoma County

| Reference Number | Project/Program | Total Project Cost | Financially Constrained Element[1] | Vision Element[2] | Notes |
|---|---|---|---|---|---|
| | | In millions of 2004 dollars | | | |
| **Adequate Maintenance** | | | | | |
| 94694 | Local streets and roads pavement and non-pavement maintenance | $643.0 | $643.0 | | |
| 94155 | Metropolitan Transportation System (MTS) streets and roads pavement and non-pavement rehabilitation shortfall | $213.8 | $213.8 | | |
| 22411 | Non-Metropolitan Transportation Systems (MTS) streets and roads pavement and non-pavement rehabilitation shortfall | $908.5 | $908.5 | | |
| 98572 | Golden Gate Transit (Sonoma County share) — Transit operating and capital improvement program (including replacement, rehabilitation, and minor enhancements for rolling stock, equipment, fixed facilities and other capital assets; does not include expansion) | $401.3 | $371.8 | $29.5 | |
| 21870 | Local bridge maintenance | $83.0 | $83.0 | | |
| 22652 | Rehabilitate pavement on U.S. 101 from Steele Lane to Grant overhead in Healdsburg | $14.5 | $14.5 | | State Highway Operation and Protection Program (SHOPP) project. Caltrans has submitted an amendment to extend limits to Route 12 |
| 22440 | Local streets and roads: pothole repair and congestion relief | $94.0 | | $94.0 | |
| **System Efficiency** | | | | | |
| 94691 | Route 121 traffic signal system and channelization at 8th Street | $0.4 | $0.4 | | |
| 98213 | Bicycle and pedestrian routes | $34.7 | $15.7 | $19.0 | |
| 21070 | Realign Route 116 (Stage Gulch Road) along Champlin Creek and widen remaining segments to accommodate pedestrians and bicyclists | $38.0 | $38.0 | | |
| 21346 | Widen Route 116 onramp to southbound U.S. 101 | $9.7 | $9.7 | | 2000 State Highway Operation and Protection Program (SHOPP) project |
| 21998 | Rehabilitate and widen Route 116 from Elphick Road to Redwood Drive (involves realignment, new shoulders and channelization improvements) | $34.5 | $34.5 | | State Highway Operation and Protection Program (SHOPP) project |
| 22190 | Hwy 116/Hwy 121 intersection improvements and Arnold Drive improvements | $14.0 | | $14.0 | |
| 22194 | Mark West Springs Road/Porter Creek Road safety improvements | $4.8 | | $4.8 | |
| 22199 | U.S. 101 Traffic Operations System (TOS) | $17.3 | | $17.3 | |
| 22200 | U.S. 101 ramp metering and fiber optic cable in Sonoma County | $27.7 | | $27.7 | |
| 22203 | River Road channelization and signals from Fulton Road to the town of Guerneville | $10.0 | | $10.0 | |
| 22441 | Local bus service (includes express bus, evening service and transit for seniors and disabled) | $47.0 | | $47.0 | |
| 94165 | Widen U.S. 101 for HOV lanes (one in each direction) from Route 12 to Steele Lane in Santa Rosa | $77.5 | $77.5 | | |

## Sonoma County

| Reference Number | Project/Program | Total Project Cost | Financially Constrained Element[1] | Vision Element[2] | Notes |
|---|---|---|---|---|---|
| | | In millions of 2004 dollars | | | |
| **Strategic Expansion** | | | | | |
| 94689 | U.S. 101/Arata Lane interchange improvements in Windsor (Phase 2) | $3.3 | $3.3 | | TEA-21 federal earmark project; includes developer fees |
| 98147 | Widen U.S. 101 (adding an HOV lane in each direction from the Marin/Sonoma County line north to Old Redwood Highway in Petaluma, and convert some highway sections from expressway to freeway | $200.0 | $200.0 | | See Marin County project #98154 on page 98. Improvements to the Petaluma River Bridge in this project are distinct from Sonoma County project #21346 (on page 121). |
| 98183 | Widen U.S. 101 for HOV lane (one in each direction) between Steele Lane and Windsor River Road | $100.0 | $100.0 | | |
| 21902 | Widen U.S. 101 for HOV lanes (one in each direction) from Old Redwood Highway to Rohnert Park Expressway | $99.0 | $99.0 | | |
| 22490 | Convert bridges of Sonoma County from one-lane to two-lane bridges | $16.9 | $16.9 | | Funded through Local Highway Bridge Replacement and Rehabilitation Program (HBRRP) |
| 22655 | Widen U.S. 101 for HOV lanes (one in each direction) from Rohnert Park Expressway to Santa Rosa Avenue (includes interchange improvements and ramp metering) | $40.0 | $40.0 | | |
| 22656 | U.S. 101/East Washington Street interchange improvements | $11.0 | $11.0 | | Project separated from larger Marin-Sonoma Narrows project in order to advance construction |
| 21884 | Petaluma crosstown connector/interchange | $33.0 | | $33.0 | |
| 21908 | Ferry service from Port Sonoma | $25.0 | | $25.0 | |
| 22191 | U.S. 101/Airport Boulevard interchange improvements and Airport Boulevard widening from 2 to 4 lanes (includes a center turn lane) | $30.0 | $30.0 | | |
| 22193 | Construct Forestville bypass on Route 116 | $3.6 | $3.6 | | |
| 22195 | Old Redwood Highway/U.S. 101 interchange improvements | $20.0 | $20.0 | | |
| 22197 | Penngrove local road improvements including Railroad Avenue interchange | $38.0 | $38.0 | | |
| 22204 | Widen Fulton Road from 2 lanes to 4 lanes from Guerneville Road to U.S. 101 and construct Route 12/Fulton Road interchange | $38.0 | $38.0 | | |
| 22205 | U.S. 101/Hearn Avenue interchange improvements, including widening overcrossing and ramps | $18.0 | $18.0 | | |
| 22207 | Extend Farmers Lane as a 3-lane or 4-lane arterial from Bellevue Avenue to Route 12 | $20.0 | $20.0 | | |

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## Sonoma County

| Reference Number | Project/Program | Total Project Cost | Financially Constrained Element[1] | Vision Element[2] | Notes |
|---|---|---|---|---|---|
| | | In millions of 2004 dollars | | | |
| **Strategic Expansion** | | | | | |
| 22438 | Bodega Highway improvements west of Sebastopol | $2.0 | $2.0 | | |
| 22443 | Design, project development and financing costs for widening U.S. 101 | $25.0 | $25.0 | | |
| 22639 | U.S. 101/Mill Street interchange in Healdsburg | $1.4 | | $1.4 | |
| 22640 | U.S. 101/Shiloh Road interchange in Windsor | $9.4 | | $9.4 | |
| 22641 | U.S. 101/Baker interchange in Santa Rosa | TBD | | TBD | |
| 22642 | U.S. 101/Dry Creek interchange in Healdsburg | $1.5 | | $1.5 | |
| 22643 | U.S. 101/Mendocino Avenue/Hopper Avenue interchange | $5.3 | | $5.3 | |
| 22644 | U.S. 101/Bellevue interchange | $15.0 | | $15.0 | |
| 22646 | U.S. 101/River Road interchange | $18.0 | | $18.0 | |
| 22998 | Construct U.S. 101/Todd Road interchange | TBD | | TBD | |

appendix two

# transportation/land-use platform

In the next twenty-five years, the Bay Area is expected to add another two million people and 1.4 million new jobs to the nine-county region. Where these people live and where the jobs are located are essential in determining what the region's future will look like, including how effectively the transportation system can handle this new growth. For example, future traffic impacts on regional and interregional roadways could be lessened if new development is focused in areas already well served by public transit. People who live and work within walking distance of the region's public transit network are more apt to take advantage of this option for getting from point A to point B, and more transit riders means fewer vehicles competing for valuable road space. If schools and shops are located closer to homes and to one another, walking and bicycling also could become convenient options. Ultimately, a regional shift toward more compact growth patterns could increase livability, preserve air quality, protect the environment and open space, dampen the growth in vehicle miles traveled, and make our investments in transportation more cost-effective.

Difficult challenges must be acknowledged and addressed in order to achieve this vision of more compact growth and livable communities. Developing new residences and jobs near mass transit may reduce the amount of driving on regional roadways but could increase local traffic near transit stations. Loss of too many industrial spaces to new housing and commercial development in the inner Bay Area could drive goods-movement-oriented uses further out to the perimeter of the region, driving up the cost of goods and reducing job diversity options. New investments in "transit villages" could benefit local businesses but could accelerate gentrification pressures if not planned properly. And new higher-density development projects will generate opposition if projects aren't well designed and if neighborhood groups aren't involved from the early planning stages.

Added to these challenges is the fact that while MTC and its transportation partners plan and finance transportation infrastructure, and agencies such as the Association of Bay Area Governments (ABAG) help coordinate other regional planning activities, land-use decisions are ultimately the province of 101 cities and nine counties spread throughout the region.[1] The regional interest in more efficient land-use patterns must be achieved through a system of continued local control over land-use decisions. The bottom line is that we must better define the roles and responsibilities of all those with a stake in transportation and land-use decisions, agree on a shared vision for regional growth patterns, and pursue mutually supporting implementation strategies.

> "THE BAY AREA MUST GROW SMARTER AND ACCOMMODATE MORE OF ITS FUTURE JOB AND POPULATION GROWTH IN EXISTING URBAN AND SUBURBAN AREAS."

With the development of this Transportation/Land-Use Platform, MTC is building on its 1996 Transportation/Land-Use Policy Statement, which paved the way for the agency's groundbreaking Transportation for Livable Communities (TLC) program. First developed in 1998, the TLC program has funded over 130 community-led transportation projects that have strengthened neigh-

borhoods, promoted more transportation choices, and contributed to urban and suburban revitalization throughout the region. MTC's Housing Incentive Program (HIP) also has provided transportation funds to local governments as incentives for building new housing adjacent to public transit hubs. In 2002, the Bay Area's five regional agencies, including MTC and ABAG, released a new Smart Growth Vision for the region resulting from dozens of public work-shops and town hall meetings in all nine counties. The conclusion: the Bay Area must grow smarter and accommodate more of its future job and population growth in existing urban and suburban areas.

In preparing for the Transportation 2030 Plan, through dozens of focus groups, public workshops and a public opinion survey, MTC found strong public support for better integration of transportation and land-use planning, the development of more convenient transportation options, and a greater level of regional cooperation on issues surrounding transportation and land use. With this institutional history, policy experience and strong public support for addressing the issue, the Commission has developed the following principles, policies and implementation strategies to further strengthen MTC's efforts to better connect transportation and land-use decisions. This Transportation/Land-Use Platform will guide the Commission's strategic investments to achieve greater transportation efficiency for people and goods, while promoting more livable communities and a better quality of life for all Bay Area residents.

## Guiding Principles

The Commission believes the following principles should guide the region's efforts to strike a better balance between transportation and land-use decisions.

### Focus Growth Around Transit

The Transportation 2030 Plan invests two-thirds of the region's transportation dollars in public transportation. The more people who live, work and study in close proximity to public transit stations and corridors, the more the region can reap the rewards of these critical investments. The areas immediately surrounding major bus, train and ferry terminals represent regionally significant opportunities to develop new housing, jobs, schools, government offices and social services. In many cases, market forces could spur this type of "transit-oriented development" if it weren't for the multitude of zoning and regulatory barriers that stand in the way. Removing these barriers and providing new incentives for transit-focused growth should be a top priority for all levels of government.

### Provide Community Benefits

If new higher-density housing, jobs and retail are built near public transit stations, there will be significant benefits for the entire Bay Area. Yet there also should be benefits to the local community beyond the transit investment itself in order to maintain livability, increase accessibility to the transit stations and reduce gentrification pressures on existing residents. These improvements have traditionally been proposed in the form of new infrastructure, but also could come in the form of parks, pedestrian safety measures, public services, streetscape projects or additional transit services. Financial measures designed to capture the increased land values around transit stations also should be developed in order to generate funds to stabilize neighborhoods and benefit existing residents and businesses.

### Reinvest in Existing Infrastructure

The current transportation system in the Bay Area — 1,400 miles of highways, 19,600 miles of local streets and roads, and 9,860 miles of transit routes including 400 miles of rail transit — represents a significant public investment that needs continued funding for maintenance and operations. Closer coordination of transportation and land use will mean more efficient use of existing infrastructure but also increased usage and wear. Reinvestment in existing roads, rails, sewers, utilities, parks and other infrastructure is critical in order to support more compact

## Platform Principles

- Focus Growth Around Transit
- Provide Community Benefits
- Reinvest in Existing Infrastructure
- Create Smarter Suburbs
- Build More Affordable Housing in the Right Places
- Avoid Displacement of Goods-Related Businesses and Facilities
- Develop Stronger Partnerships

**"THE BAY AREA SUFFERS FROM A SEVERE HOUSING CRUNCH, AND THE TRANSPORTATION SYSTEM IS BEARING THE BRUNT OF IT."**

growth throughout the region, especially to support infill strategies in our more urbanized areas. Major intra-regional travel corridors also will require coordinated investment strategies to improve operational efficiency and reduce design deficiencies for facilities that carry a wide range of automobile and truck traffic.

### Create Smarter Suburbs

While the Regional Agencies' Smart Growth Vision focuses growth around transit stations and corridors and within existing urban centers, it recognizes that some new growth will occur at the edge of existing cities and suburbs. Whether this growth occurs as new suburbs or infill development in existing suburbs, it should incorporate a mix of uses and housing types that can make walking, bicycling and local public transit services a more convenient option for local residents. This can be accomplished through new approaches to neighborhood design, trail development and bicycle- and pedestrian-friendly streets, as well as by encouraging the placement of schools, community centers, churches, shops and services at the centers of larger suburban developments within an easy walk of surrounding homes and neighborhoods.

**"TRANSPORTATION AGENCIES MUST DEVELOP CLOSER PARTNERSHIPS WITH CITIES, COUNTIES AND OTHERS WITH LAND-USE AUTHORITY."**

### Build More Affordable Housing in the Right Places

The Bay Area suffers from a severe housing crunch, and the transportation system is bearing the brunt of it. Most severely affected are the routes serving the Central Valley and Sacramento regions, where many Bay Area workers now live due to a lack of housing choices in the core nine-county region. The lack of an adequate supply of housing within the region — enough to match existing and future job growth — means that the number of in-commuters to the region will nearly double by 2030 if we don't provide more housing. All levels of government must commit to increasing housing supply and affordability, in addition to ensuring that the housing is built in locations that provide a wide variety of transportation options.

### Avoid Displacement of Goods-Related Businesses and Facilities

While many new housing opportunities exist in the transformation of the region's older industrial and commercial areas, it is also important that key locations for goods-movement purposes be preserved. This is a critical land-use strategy for the inner Bay Area that can help maintain economic vitality while reducing the growth in truck traffic. Distribution and warehousing facilities that are the most important for our regional economy must remain functional and economically viable. Regional strategies and incentive programs need to be developed that acknowledge the special needs of both urban and suburban communities that house these facilities, so that jurisdictions will be encouraged to preserve these critical supporting land uses.

### Develop Stronger Partnerships With Public Agencies, Neighboring Regions and the Private Sector

MTC cannot and should not take on the smart growth challenge alone. This Transportation/Land-Use Platform is designed to further define MTC's roles and responsibilities in order to assist in the implementation of the Regional Agencies' Smart Growth Vision. The list of partners who will be essential in implementing this platform as well as the Smart Growth Vision include ABAG, the Bay Area Air Quality Management District (Air District), the

Bay Conservation and Development Commission, other regional planning agencies, our regional neighbors to the north, east and south, county congestion management agencies (CMAs) and public transit providers. Working more closely with the private sector, community-based organizations and members of the public who haven't traditionally been engaged in the transportation/land-use discussion is absolutely critical to the success of this effort. In the end, however, it is local governments who will ultimately make the land-use decisions, and the successful implementation of this platform requires that all transportation agencies develop even closer partnerships with cities, counties and others with land-use authority.

## Statement of Policy

The Commission believes that in order to meet the goals of the Transportation 2030 Plan and improve the quality of life for all Bay Area residents, transportation and land-use decisions must be more closely coordinated. It will thus be the policy of the Metropolitan Transportation Commission to encourage, recognize and reward land-use practices and policies that maximize walking, bicycling, transit ridership and other forms of high-occupancy-vehicle (HOV) travel, while diminishing the need to travel long distances and reducing vehicle-related air pollution. MTC will provide incentives and assistance to local governments to plan for and develop new jobs, housing, neighborhood-serving retail, schools and other services in well-designed urban and suburban centers, in close proximity to the region's transit stations, and along present and future transit and HOV corridors.

## Implementation

In December 2003, the Commission adopted an initial five-point Transportation/Land-Use Policy Platform that laid out the agency's commitment to pursue new plans and programs to encourage the types of local land-use decisions that would result in more cost-effective regional transportation investments. As a result of continued stakeholder input in 2004, and under the guidance of a 25-member Transportation/Land-Use Task Force that has been overseeing the development of this document, the initial five-point platform has evolved into the Statement of Policy above and the following implementation strategies.[2]

### 1. Prioritize transportation investments that maintain the existing core transportation network

If the region's smart growth vision is to become a reality, more compact growth patterns must be supported by a complementary investment in the rehabilitation and maintenance of existing infrastructure. MTC will reaffirm its commitment to maintaining the region's transportation network by ensuring investments in both transit and road rehabilitation projects that serve the customer directly: replacing transit vehicles, rehabilitating track and pavement, and meeting key safety and accessibility requirements for all modes of travel.

### 2. Reserve an appropriate percentage of funding from the TLC/HIP program for land-use planning efforts around existing or future transit stations and corridors

MTC will create a new land-use planning grant program to assist local governments in the development of local land-use plans and policies — e.g., specific plans, precise plans, model zoning ordinances, zoning overlays, form-based codes, etc. — for areas immediately surrounding bus, ferry and train stations. The land-use plans funded under this program should help increase transit ridership, prioritize station access for bicyclists and pedestrians, and involve a diversity of community stakeholders. MTC also will prioritize TLC and HIP funds for communities that plan for and build new housing, neighborhood-serving retail, employment, schools, day care centers and other services near transit stations and in town centers and downtown cores.

### Platform Implementation

1. Prioritize transportation investments that maintain the existing core transportation network
2. Reserve an appropriate percentage of funding from the TLC/HIP program for land-use planning efforts around existing or future transit stations and corridors
3. Encourage cities and counties to incorporate general plan policies that support transit-oriented development around Resolution 3434 stations
4. Support transportation/land-use coordination beyond major transit corridors
5. Coordinate transportation/land-use issues with regional neighbors
6. Develop joint planning projects with partner agencies to implement this platform and the Smart Growth Vision

### 3. Encourage cities and counties to incorporate general plan policies that support transit-oriented development around Resolution 3434 stations

Any major transit investment must consider its ridership markets if it is to be economically feasible, and adjacent land uses to the transit infrastructure play an important role in determining that viability. The Commission will develop new criteria that will define supportive land use for the region's major new public transit investments outlined in MTC Resolution 3434. The goal of this policy will be to ensure that the investment of regional discretionary dollars will be matched by a local demonstration that plans are in place and will be implemented to support adequate housing and employment densities around public transit stations and corridors. The criteria will be scaled to match the type of transit investment to local land-use patterns.

### 4. Support transportation/land-use coordination beyond major transit corridors

MTC commits to working with ABAG and other regional and local government partners to help coordinate transportation and land use beyond the region's major public transportation corridors. In addition to continuing to pursue neighborhood-scale access improvements highlighted through the TLC program, the agencies will work with local governments interested in developing new approaches to suburban design that can offer a wider variety of travel options for shorter distance trips, particularly walking, bicycling, and smaller shuttle, bus and jitney services.

### 5. Coordinate transportation/land-use issues with regional neighbors

In-commuting pressures are directly tied to jobs/housing imbalances spilling over our borders. Bringing more housing into the Bay Area instead of anticipating future development in neighboring regions is a major underlying objective of the Smart Growth Vision recommendations. Building on ABAG's work with the Interregional Partnerships, MTC will seek the assistance of ABAG and the Air District in developing new partnerships with our regional neighbors to advance joint planning projects that focus on transportation/land-use issues of mutual concern.

### 6. Develop joint planning projects with partner agencies to implement this platform and the Smart Growth Vision

MTC, ABAG, the Air District and other partners will work to further the implementation of the Smart Growth Vision as well as investigate the feasibility of new joint planning efforts such as a housing and jobs location strategy and a regional open space plan that would reinforce infill development as a priority for growth in cities and established suburbs. MTC also will continue to provide financial assistance to the county congestion management agencies (CMAs) through its Transportation Planning and Land-Use Solutions (T-PLUS) program to implement this platform, develop county-level funding for the Transportation for Livable Communities (TLC) program, coordinate with public transit agencies, and pursue tailored efforts at the county level to promote more livable communities.

## Education, Legislation and Outreach

In support of its commitment to implement the Transportation/Land-Use Platform, MTC, in partnership with ABAG, the Air District and other regional and local agencies, will develop an education and outreach strategy that will focus on providing needed tools, assistance materials and workshops for local elected officials, city staff and members of the public. MTC and ABAG also will develop a joint legislative platform in partnership with other agencies that will focus on removing barriers to smart growth, including:

- Legislation to protect the builders of attached housing, like apartments and condominiums, from unfair litigation

- Fiscal measures to allow local governments to capture new revenues from development around transit stations and corridors

- Reform of the California Environmental Quality Act (CEQA) to reduce the barriers for transit-oriented development proposals that demonstrate community support, are consistent with local plans and do not result in significant environmental impacts

- New financial incentives from the state and federal governments to promote more housing and jobs near transit stations and corridors

## Evaluation

In order to gauge progress towards achieving closer coordination of transportation and land-use planning in the region, MTC recognizes that success must be quantified through specific performance measures. The following are examples of measures that the regional agencies will develop and report to the public:

- Number of distinct planning efforts around key transit stations and corridors

- Travel patterns of people living and working near public transit (including mode of transportation, vehicle miles traveled and air quality impacts)

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- Total number of housing units produced in the region

- Total number of housing units produced around key transit stations and corridors

- Percent of new housing and job development near transit stations and corridors

- Type of households near transit stations and corridors, including income levels, age and homeownership data

- Square footage of warehouse and industrial space in designated goods-movement districts

## Conclusion

Our region — projected to grow by at least another one million jobs and one million residents over the next two decades — will face serious consequences if we fail to alter the way we grow. Mounting traffic congestion, air quality problems and a continuing housing crisis all point to the need to craft a new regional approach to coordinating transportation and land-use decisions. This Transportation/Land-Use Platform is MTC's commitment to help address these problems, assist in the implementation of the region's Smart Growth Vision, and promote more livable communities and transportation options for all Bay Area residents.

1 In addition to land-use authority at the local government level, the Bay Conservation and Development Commission (BCDC) has unique land-use powers in order to protect the San Francisco Bay shoreline.

2 Implementation strategies 2 through 5 are taken directly from the Commission's five-point Transportation/ Land-Use Policy Platform adopted in December 2003.

appendix three

# transportation control measures

Transportation Control Measures (TCMs) are strategies to reduce vehicle emissions. The federal TCMs shown below were added over successive revisions to the State Implementation Plan (SIP). With the exception of the five new TCMs (A-E), the original set of 28 TCMs has been completed.

## Federal TCMs in the State Implementation Plan

| TCM Number | Federal Transportation Control Measure |
|---|---|
| **Original TCMs from 1982 Bay Area Air Quality Plan** | |
| TCM 1 | Reaffirm commitment to 28 percent transit ridership increase between 1978 and 1983 |
| TCM 2 | Support post-1983 improvements in the operators' five-year plans and, after consultation with the operators, adopt ridership increase target for the period 1983 through 1987 |
| TCM 3 | Seek to expand and improve public transit beyond committed levels |
| TCM 4 | High-occupancy-vehicle (HOV) lanes and ramp metering |
| TCM 5 | Support RIDES efforts |
| TCM 6* | Continue efforts to obtain funding to support long-range transit improvements |
| TCM 7 | Preferential parking |
| TCM 8 | Shared-use park-and-ride lots |
| TCM 9 | Expand commute alternatives program |
| TCM 10 | Information program for local governments |
| TCM 11** | Gasoline Conservation Awareness Program (GasCAP) |
| TCM 12** | Santa Clara County commuter transportation program |
| **Contingency Plan TCMs Adopted by MTC in February 1990 (MTC Resolution 2131)** | |
| TCM 13 | Increase bridge tolls to $1.00 on all bridges |
| TCM 14 | Bay Bridge surcharge of $1.00 |
| TCM 15 | Increase state gas tax by 9 cents |
| TCM 16* | Implement MTC Resolution 1876, Revised — New Rail Starts |
| TCM 17 | Continue post-earthquake transit services |
| TCM 18 | Sacramento-Bay Area Amtrak service |
| TCM 19 | Upgrade Caltrain service |
| TCM 20 | Regional HOV System Plan |
| TCM 21 | Regional transit coordination |

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* Deleted by EPA action from 1999 Ozone Attainment Plan

** Deleted by EPA action from 1999 Ozone Attainment Plan, but retained in Carbon Monoxide Maintenance Plan

# transportation control measures

| TCM Number | Federal Transportation Control Measure |
|---|---|
| TCM 22 | Expand Regional Transit Connection ticket distribution |
| TCM 23 | Employer audits |
| TCM 24 | Expand signal timing program to new cities |
| TCM 25 | Maintain existing signal timing programs |
| TCM 26 | Incident management on Bay Area freeways |
| TCM 27 | Update MTC guidance on development of local Transportation Systems Management (TSM) programs |
| TCM 28 | Local TSM Initiatives |

## New TCMs in 2001 Ozone Attainment Plan (Being Implemented)

| | |
|---|---|
| TCM A | Regional Express Bus Program |
| TCM B | Bicycle/Pedestrian Program |
| TCM C | Transportation for Livable Communities |
| TCM D | Expansion of Freeway Service Patrol |
| TCM E | Transit access to airports |

The 19 proposed state Transportation Control Measures (TCMs) in the Draft 2005 Bay Area Ozone Strategy have been updated pursuant to the requirements of the California Clean Air Act (CCAA). The proposed TCMs include transit service improvements, rideshare programs, bicycle and pedestrian enhancements, and land-use, pricing, and traffic management strategies. The implementation steps outlined for each TCM include both near-term and long-term implementation. A full description of these state TCMs will be included in the *Draft 2005 Bay Area Ozone Strategy* publication, available in Summer 2005.

## State TCMs Proposed in the Draft 2005 Bay Area Ozone Strategy

| TCM Number | State Transportation Control Measure | Implementation Steps |
|---|---|---|
| TCM 1 | Support voluntary employer-based trip reduction programs | • Provide core support for employer programs, based on an assessment of employer needs and the level of employer interest. Potential support includes assistance in developing or enhancing employer programs, information and referrals, employer networks, and programs to recognize outstanding employer programs.<br>• Support legislation to maintain and expand incentives for employer programs, such as tax deductions and/or tax credits for employer efforts to promote ridesharing, transit, and other commute alternatives<br>• Seek legislation to create stronger voluntary programs for all employers or to require certain minimum elements for public employers |
| TCM 2 | Adopt employer-based trip reduction rule | *TCM deleted* — Health and Safety Code Section 40929 does not permit air districts to require mandatory employer-based trip reduction programs. |
| TCM 3 | Improve local and areawide bus service | • Replace worn-out transit buses with clean-fuel buses and retrofit existing diesel buses with diesel emission control technology<br>• Sustain the existing Regional Express Bus Program<br>• Assist further planning work on enhanced bus and Bus Rapid Transit concepts<br>• Sustain transit service to airports<br>• Restore local bus routes that were eliminated due to economic recession<br>• Implement new Enhanced Bus and Bus Rapid Transit services and additional Lifeline Transit services, and expand of Regional Express Bus Programs as funds become available |
| TCM 4 | Upgrade and expand local and regional rail service | • Upgrade and expand local and regional rail service<br>• Implement MUNI Metro Third Street Light Rail initial operating segment from Downtown SF to Hunter's Point<br>• Implement Caltrain Express/Rapid Rail Phase 1 ("Baby Bullet") to San Francisco<br>• Extend Tasman East and Vasona light-rail transit (LRT) in Santa Clara County<br>• Extend BART to Warm Springs, eBART to Eastern Contra Costa County, tBART to Livermore/Amador Valley and implement Silicon Valley Rapid Transit Corridor and an Oakland International Airport connector<br>• Implement MUNI Metro Central Subway in San Francisco<br>• Implement Caltrain Downtown Extension/rebuild TransBay Terminal<br>• Implement Downtown East Valley LRT in Santa Clara County<br>• Implement new Marin/Sonoma Commuter Rail Service between Cloverdale and a San Francisco-bound ferry service<br>• Implement an additional Capitol Corridor peak-period commuter service between Vacaville and Oakland<br>• Implement Dumbarton Rail Service connecting BART and Caltrain over a rebuilt Dumbarton rail bridge |
| TCM 5 | Improve access to rail and ferries | • Develop demonstration program for station car and bike station concepts at select regional transit centers<br>• Determine long-term funding needs for existing shuttles and examine funding options<br>• Implement Safe Routes to Transit to improve bicycle and pedestrian access<br>• Complete Regional Transit Connectivity Plan<br>• Develop a master plan for innovative secure bicycle storage strategies at key transit hubs |

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| TCM Number | State Transportation Control Measure | Implementation Steps |
|---|---|---|
| TCM 6 | Improve interregional rail service | • Implement additional interregional rail service in Capitol (Auburn–Sacramento–Oakland–San Jose) Corridor and track enhancements<br>• Implement additional Altamont Corridor Express rail service and track enhancements<br>• Implement high-speed rail service between Los Angeles and the Bay Area |
| TCM 7 | Improve ferry service | • Conduct initial planning for new ferry service<br>• Implement new high-speed low emission ferry to service Vallejo to San Francisco route<br>• Expand existing ferry service between: Oakland/Alameda and San Francisco, and Larkspur and San Francisco<br>• Implement new ferry service between Berkeley/Albany and San Francisco, and South San Francisco and San Francisco<br>• Implement new intermodal transit hub at Vallejo Ferry Terminal<br>• Expand berthing capacity at the San Francisco Ferry Terminal<br>• Implement hydrogen fuel cell ferry demonstration project from Treasure Island to San Francisco<br>• Assist ferry operators in converting vessel engines to lower emission engines<br>• Study and potentially implement new service between Richmond, Hercules/Rodeo, Martinez, Redwood City and San Francisco; Port Sonoma and San Francisco; and Oakland and San Francisco airports |
| TCM 8 | Construct carpool/express bus lanes on freeways | • Expand existing HOV network, based on 2003 Transportation Improvement Program, where beneficial to air quality. Special attention should be paid to express bus operations to maximize benefits for transit. Monitor and adjust occupancy requirements and hours of operation to maximize air quality and mobility benefits.<br>• Implement HOV support facilities such as park & ride lots at various locations<br>• Implement additional HOV lanes and support infrastructure identified in the Regional Transportation Plan, where beneficial to air quality |
| TCM 9 | Improve bicycle access and facilities | • Fund Regional Bicycle Plan and Safe Routes to Transit improvements<br>• Continue Transportation Development Act (TDA) Article 3, Transportation for Livable Communities (TLC) and Transportation Fund for Clean Air (TFCA) funding for bike improvements<br>• Develop on-line bicycle mapping tool as part of the regional 511 traveler information number<br>• Promote Bike to Work Week/Day<br>• Encourage local jurisdictions to develop safe and convenient bicycle lane and route networks, provide secure bike racks and storage, and require bicycle access and amenities as conditions of approval of development projects<br>• Encourage public education about bicycle safety for both bicyclists and motorists |
| TCM 10 | Youth transportation | • Encourage walking and bicycling to school through the Safe Routes to Schools Program<br>• Establish special carpool formation services for parents, students and staff at Bay Area elementary and secondary schools<br>• Replace school buses with clean-fuel vehicles<br>• Offer transit ride discounts to youth and students |
| TCM 11 | Install freeway traffic management systems | • Integrate traffic management features into new freeway construction projects<br>• Maintain current level of Freeway Service Patrol (FSP)<br>• Maintain 511 transit information service and improve and customer convenience<br>• Extend ramp metering in major freeway corridors<br>• Seek funding for full deployment of Caltrans' Traffic Operation System/Traffic Management Center project<br>• Expand FSP to other routes and times of the day |
| TCM 12 | Arterial management measures | • Maintain current technical assistance program for local jurisdictions that seek to retime signals, including the evaluation of bus priority treatments<br>• Continue TFCA program to fund arterial management projects where air quality benefits can be demonstrated<br>• Coordinate the timing of an additional 1,200 signals and continue updating timing plans<br>• Work with bus operators to provide priority treatment along major bus routes |

| TCM Number | State Transportation Control Measure | Implementation Steps |
|---|---|---|
| TCM 13 | Transit use incentives | • Implement Translink® (universal fare card) on transit systems throughout the region<br>• Implement improvements to the 511 transit information service<br>• Encourage employers, transit operators, local governments and others to promote and expand employer-based transit subsidy programs like the Commuter Check and EcoPass programs<br>• Improve signage at transit transfer hubs<br>• Deploy real-time transit arrival information<br>• Increase passenger amenities at transit hubs and stops<br>• Complete Alameda and Contra Costa County transit centers identified in AC Transit's Comprehensive Service Plan |
| TCM 14 | Carpool and vanpool services and incentives | • Maintain current programs of the Regional Ridesharing Program and increase efficiency in delivering services<br>• Explore innovative concepts such as real-time ridematching and more formal pick-up/drop-off locations for casual carpoolers<br>• Explore options for expanding medium-distance (15–30 miles) vanpools |
| TCM 15 | Local land-use planning and development strategies | MTC will:<br>• Implement its 5-point transportation and land-use platform including a new planning grant program to fund station area plans around major transit facilities<br>• Maintain funding for expanded TLC planning and capital grant programs and HIP program<br>• Continue providing Transportation Planning and Land-Use Solutions (T-PLUS) funding to congestion management agencies to promote community revitalization projects<br>• Utilize a Caltrans grant to examine opportunities for transit-oriented development along major transit corridors<br>• Develop incentives and conditions to promote supportive land use policies around major new transit investments<br>BAAQMD will:<br>• Continue to fund bicycle projects, traffic-calming, shuttles, low emission vehicles, trip reduction programs and other clean air projects through the TFCA program<br>• Continue to provide technical assistance to local jurisdictions on air quality analyses in the environmental review process<br>• Continue to encourage cities and counties to reduce emissions from sources other than motor vehicles including lawn and garden equipment, wood stoves and fireplaces, and residential and commercial uses<br>ABAG will:<br>• Periodically monitor and update its Smart Growth demographic projections<br>• Promote multi-jurisdiction planning along select transit corridors to encourage transit-oriented development<br>MTC, ABAG and the BAAQMD will:<br>• Develop financial and other incentives and technical assistance to encourage innovative parking strategies such as reduced parking, parking fees, parking cash-out, shared parking and other parking programs<br>• Pursue legislative changes to remove barriers and provide incentives for smart growth<br>• Promote carsharing as a way to reduce parking requirements<br>• Monitor indirect source mitigation programs in other regions for Bay Area feasibility<br>• Provide technical assistance to local government agencies<br>• Publicize noteworthy examples of local clean air plans, policies and programs, as well as endorse noteworthy development projects<br>• Study opportunities to promote location efficient mortgages (LEMs) to encourage home purchases near transit |

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| TCM Number | State Transportation Control Measure | Implementation Steps |
|---|---|---|
| TCM 16 | Public education/ intermittent control measures | • Continue Spare the Air (STA) notices to media, employers, public agencies and individuals, with an emphasis on reactive organic gases (ROG) reductions, obeying freeway speed limits in electronic freeway signs and other outreach efforts<br>• Expand STA notices to add emphasis on ROG reductions, obeying freeway speed limits, and discouraging use of pleasure craft<br>• Expand the Clean Air consortium to include cities and counties, as well as other public agencies<br>• Target major commercial airports and their tenants for greater participation in the STA program<br>• Increase coordination between the Bay Area's STA program with the San Joaquin Valley's STA program<br>• Continue public education program on the proper maintenance and operation of motor vehicles to reduce air pollution<br>• Study effectiveness and costs of free transit on Spare the Air days<br>• Explore possible legislative approaches to formalize and strengthen episodic approaches |
| TCM 17 | Conduct demonstration projects | • Promote demonstration projects to develop new strategies to reduce motor vehicle emissions. Potential projects include:<br>– Low and zero emission vehicles (LEV) and refueling infrastructure<br>– Parts replacement program for middle-aged cars<br>– Heavy duty diesel vehicle idling<br>– Carsharing<br>• Monitor Phase 1 projects and expand depending on effectiveness and resources available |
| TCM 18 | Implement transportation pricing reform | • Advocate for legislative authority to develop and promote revenue measures for:<br>– Congestion pricing on bridges<br>– High-occupancy/toll lanes<br>– Regional and state gas tax increases of up to $.50 per gallon<br>– Regional vehicle miles traveled (VMT) fees<br>– Taxes on diesel fuel<br>– Emissions-based vehicle registration fees |
| TCM 19 | Improve pedestrian access and facilities | • Review and comment on general/specific plan policies to promote development patterns that encourage walking and circulation policies. Emphasize pedestrian travel and encourage amending zoning ordinances to include pedestrian-friendly design standards.<br>• MTC will continue to fund local pedestrian improvement projects through the TLC program, and support the Pedestrian Safety Task Force and associated pedestrian safety programs.<br>• TFCA program will continue to fund pedestrian improvement projects to reduce motor vehicle trips and emissions.<br>• Continue to identify and fund planning projects that enhance pedestrian movement in neighborhoods, downtowns and near transit stops<br>• Continue funding specific improvements through a variety of funding sources<br>• Support Safe Routes to Schools |
| TCM 20 | Promote traffic-calming measures | • Promote traffic-calming measures<br>• Fund traffic-calming projects such as pedestrian-exclusive streets, residential and neighborhood traffic calming measures, and arterial and major route traffic-calming measures<br>• Include traffic-calming strategies in the transportation and land use elements of general and specific plans<br>• Encourage area-wide traffic-calming plans and programs<br>• Include traffic-calming strategies in capital improvements programs |

# supplementary reports

MTC has published several supplementary reports in conjunction with the *Transportation 2030 Plan*. These include an *Environmental Impact Report*, a *Project Notebook*, and other topic-specific reports listed here. These reports are available in the MTC-ABAG Library. The reports also can be ordered via e-mail at library@mtc.ca.gov, or by contacting the MTC-ABAG Library via fax at (510) 464-7852 or by phone at (510) 464-7836.

### Environmental Impact Report for the Transportation 2030 Plan

MTC (February 2005)

An Environmental Impact Report (EIR) for the Transportation 2030 Plan has been prepared pursuant to the California Environmental Quality Act (CEQA) statutes. As a program EIR document, this EIR presents a regionwide assessment of potential impacts of the Transportation 2030 Plan. It does not evaluate the site-specific impacts of individual projects, which will be analyzed in subsequent EIRs performed by project sponsors.

Areas of evaluation include: transportation; air quality; land use, housing and social environment; energy; geology and seismicity; noise; and biological, water, visual, and cultural resources. The potential impacts that the Transportation 2030 Plan would have on these areas and measures to mitigate the potential impacts are identified. A reasonable range of alternatives to the Transportation 2030 Plan is considered, and an environmentally superior alternative among the alternatives analyzed is identified.

The Draft EIR was released for a 56-day public review period on November 12, 2004. The Commission certified the Final EIR on February 23, 2005.

### Transportation Air Quality Conformity Analysis

MTC (February 2005)

The Transportation Air Quality Conformity Analysis is a conformity assessment of the Transportation 2030 Plan, and is also Amendment #05-05 to the 2005 Transportation Improvement Program. The Conformity Analysis is prepared in accordance with the Environmental Protection Agency's (EPA) air quality regulations issued August 1997 and with the Bay Area Air Quality Conformity Procedures adopted June 1998 (MTC Resolution 3075) and submitted to EPA for approval and incorporation into the State Implementation Plan.

### Project Notebook

MTC (March 2005)

The purpose of the Project Notebook is to provide additional, detailed technical information on Transportation 2030 investments for staff at MTC and its partner agencies, as well as other interested organizations and individuals. The Project Notebook covers the transit operating and capital shortfalls, local streets and roads shortfalls, and MTC's Regional Operations Programs; and provides project-level details on the transportation projects and programs included as "new commitments" in the Transportation 2030 Plan.

### Public Outreach and Involvement Program — Phase 1 Summary Report

MTC (January 2004)

### Public Outreach and Involvement Program — Phase 2 Summary Report

MTC (November 2004)

### Public Outreach and Involvement Program — Phase 3 Summary Report

MTC (January 2005)

The extensive public involvement component of the Transportation 2030 Plan was conducted in three phases over a period of 20 months. The effort builds on the values, needs and priorities MTC heard from the public during the 12-month 2001 Regional Transportation Plan (RTP) public outreach effort.

MTC, in cooperation with the congestion management agencies in each county, set the following goals for outreach and public involvement for the Transportation 2030 Plan development process: high-quality input and participation; diversity; education; reach; accessibility; impact; and participant satisfaction.

The *Public Outreach and Involvement Program — Phase 1 Summary Report*, published in January 2004, documents activities from June 2003 through December 2003, when the Commission set the parameters for regional priorities and local investment decisions. In this first phase, MTC used five primary methods to engage the public in focused input and discussion.

- A day-long regional summit, attended by more than 450 people, was held in San Francisco to kick off the dialogue on updating the regional transportation plan.

- A telephone poll of 2,700 voters and 900 residents (both voters and non-voters) provided a representative sample of opinion.
- Six focus groups were held around the region to allow more in-depth discussion on major choices and tradeoffs.
- About 30 targeted workshops were held with specific groups and organizations with interests in transportation issues (including eight meetings held in low-income neighborhoods in cooperation with community-based organizations selected through a competitive process).
- Over 530 members of the public participated in an interactive, Internet-based "budget allocation exercise."

These five methods, in combination with public attendance at Planning and Operations Committee and full Commission meetings, were designed to gather input on regional priorities in a focused, even-handed way that balanced open public input with statistically valid and representative measures.

Phase 2 of the public involvement component — from January 2004 to September 2004 — was used to more fully develop some of the Commission's December 2003 directives. Some of the spring and summer public involvement activities included:

- Review of the methodology for the Equity Analysis with MTC's Minority Citizens Advisory Committee (MCAC)
- Task force meetings on the Bicycle/Pedestrian Program, the Transportation/Land-Use Platform and on the Access to Mobility program
- Review of the financial and policy element of the plan with MTC's Advisory Council (with members from MCAC and the Elderly and Disabled Advisory Committee in attendance)
- A September 2004 "Cost of Mobility" workshop on transportation spending in low-income households
- Workshops and Web outreach hosted by the congestion management agencies in each county

Phase 3 of the public involvement effort began with the November 2004 publication and release of the *Draft Transportation 2030 Plan* and its companion *Draft Environmental Impact Report*. This final phase featured four interactive workshops in November and December, attended by approximately 250 people, and a Web-based survey, with responses from some 800 individuals.

The primary purpose of both the workshops and the Web survey was to get public input on a set of investment strategies included in the *Draft Transportation 2030 Plan*. Of the 14 investment categories included in the draft plan, seven were chosen for consideration at the workshops based on anticipated interest.

### Equity Analysis Report

MTC (December 2004)

MTC conducted an Equity Analysis to measure both the benefits and burdens associated with the transportation investment alternatives included in the Transportation 2030 Plan, and to make sure that minority and low-income communities share in the benefits of the transportation network without bearing a disproportionate share of the burdens. Minority and low-income communities are identified as "communities of concern" in the report.

MTC enhanced the 2001 Equity Analysis methodology and reviewed it with MTC's Minority Citizens Advisory Committee, as well as other stakeholders who attended the meetings. Through travel demand modeling, the equity analysis measured:

- Access and travel time to essential destinations associated with Transportation 2030 alternatives. Essential destinations include jobs, schools, health services, social services and food stores.
- Vehicle miles traveled through minority and low-income neighborhoods associated with Transportation 2030 alternatives. This measurement provided information on hours of travel, hours of delay and emissions associated with this traffic.
- Travel-time and out-of-pocket savings associated with Transportation 2030 alternatives.

### Project Performance Evaluation Report
MTC (December 2004)

MTC evaluated over 400 projects and programs considered for inclusion in Transportation 2030. The projects evaluated were proposed by transportation agencies as well as members of the public, who were invited for the first time to submit their project ideas directly to MTC. The evaluation assessed the projects' contributions toward the Transportation 2030 goals. Performance measures included collision reduction, seismic safety, system efficiency and reliability, connectivity and access, contributions to clean air, significance for goods movement, support for Smart Growth policies endorsed by MTC and the Association of Bay Area Governments, and ability to address the transportation needs of disadvantaged communities.

### Government-to-Government Consultation With Native American Tribes
MTC (March 2005)

As required by state and federal law, MTC conducted government-to-government consultation with federally recognized tribal governments during preparation of the Transportation 2030 Plan. The consultation began with a meeting in October 2003 hosted jointly by MTC and Caltrans District 4 to open lines of communication with tribal governments with transportation interests in the Bay Area. This report includes materials and notes from this meeting as well as subsequent communications with the federally recognized tribal governments through each phase of the Transportation 2030 Plan development.

# related plans

The Transportation 2030-related plans described in this appendix are available for review in the MTC-ABAG Library or online at www.mtc.ca.gov. The Ozone Plan will be available online at the Air District Web site: www.baaqmd.gov.

### Regional Airport System Plan

Regional Airport Planning Committee, September 2000 (incorporated into the Transportation 2030 Plan by reference)

### General Aviation Element of the Regional Airport System Plan

Regional Airport Planning Committee, June 2003 (incorporated into the Transportation 2030 Plan by reference)

The Regional Airport System Plan (RASP) is prepared by the Regional Airport Planning Committee (RAPC), which is convened by the Association of Bay Area Governments, the San Francisco Bay Conservation and Development Commission, and MTC. The latest update predicts a doubling of air passenger travel by 2020 and a tripling of air cargo volumes. The plan is advisory in nature and was designed to address three major issues:

- The need for additional airport system capacity
- Regional airport system alternatives to provide this capacity
- Significant environmental tradeoffs, to the extent they are known

The RASP focuses on the region's three commercial airports — Oakland International Airport, San Francisco International Airport and San Jose International Airport. An update of the general aviation element was completed in June 2003. Here are some key findings and conclusions from the RASP.

- Decisions concerning future runway improvements require choices — choices between expanding runways or tolerating increasing delays in order to avoid filling the Bay.
- Forecasted growth in demand will exceed the capacity of the airport system in 2020.
- After examining a range of alternatives to construction of new runways, the analysis did not reveal a strategy for closing the gap between projected demand and available runway capacity in 2020. The Federal Aviation Administration (FAA) should continue to pursue near-term measures that will help reduce delays.
- To meet reasonably expected demand and provide more reliable air transportation during good and bad weather, additional runway capacity is needed at San Francisco and Oakland airports. A more comprehensive examination of runway improvements should be pursued as the most relevant course of action.
- Prior to an irreversible commitment to additional runways, all impacts on Bay resources should be evaluated. RAPC recommends that the process complete the full environmental analysis of new runway options in compliance with existing state and federal environmental law without special amendment.
- RAPC recommends that the plan protect future options by indicating a regional interest in civil aviation use of Travis Air Force Base (Solano County) and Moffett Federal Airfield (Santa Clara County), if these facilities become available in the future. (These facilities are not available now, nor can their future availability be predicted). Also, the plan recognizes that the commercial airports require an effective general aviation reliever airport system for small aircraft.
- Finally, given the inherent uncertainty when discussing the future, RAPC should continue to monitor changes in the air travel market, air traffic control technology, and laws and regulations that could affect the air transportation strategies and conclusions reached in the current plan.

The General Aviation Element assessed six key areas:

1. Airport system planning
2. Land use compatibility
3. Public information resources
4. Ground-side airport access
5. Airspace issues
6. Airport funding

The plan calls on RAPC to:

- Conduct a study of vacant land parcels that should be protected to support airport viability
- Support legislation that would assist Airport Land-Use Committees in carrying out their mandate under state law
- Create a general "facts and figures" Web site on airport activities
- Support higher funding levels for general aviation airports in both FAA and Caltrans programs

The General Aviation Element also contains a recommendation that airport master plans identify types of additional facilities and services needed to provide relief capacity for air carrier airports and growing corporate general aviation activity.

### San Francisco Bay Area Seaport Plan

San Francisco Bay Conservation and Development Commission (BCDC) and MTC, April 18, 1996 as amended through February 20, 2003 (incorporated into the Transportation 2030 Plan by reference)

The San Francisco Bay Area Seaport Plan is the product of a cooperative planning effort by BCDC and MTC. The plan provides the basis for Bay Area port policies and looks at future seaport needs and suggested improvements.

The Seaport Plan employs land-use designations and enforceable policies that BCDC and MTC use in their regulatory and funding decisions. The plan designates areas determined to be necessary for future port-related development as "port priority use areas." The Seaport Plan as amended designates 10 port priority use areas, which include the following five active seaports:

- Oakland
- San Francisco
- Redwood City
- Richmond
- Benicia

Subsequent to its 1996 adoption, the Seaport Plan has been amended to remove the port priority use designation from the following locations:

- City of Alameda
- Encinal Terminals (in Alameda)
- Portion of Oakland Army Base
- Port of Benicia (198 acres along western extent)
- Port of Richmond (Terminal 4 liquid bulk terminal)
- Port of Oakland (Ninth Avenue break bulk terminal)
- Port of San Francisco (Pier 70 break bulk terminal)
- Port of Redwood City (Abbott Laboratories property; formerly Cargill Salt Company terminal)
- Collinsville (Solano County)

### Draft 2005 Bay Area Ozone Strategy

Bay Area Air Quality Management District, MTC, Association of Bay Area Governments (Available summer 2005)

The Draft 2005 Bay Area Ozone Strategy is being prepared by the Bay Area Air Quality Management District, the Association of Bay Area Governments and MTC to address state air quality planning requirements. Specifically, this joint effort will outline a strategy for making progress toward attainment of the California one-hour ozone standard. (Currently, the Bay Area is designated as a non-attainment area for the state one-hour standard.)

As required by the California Clean Air Act, the Draft 2005 Ozone Strategy will identify "all feasible measures" for control of ozone precursors that will assist the Bay Area in attaining the California ozone standard and addressing pollutant transport to downwind regions. The Draft 2005 Ozone Strategy updates the Bay Area 2000 Clean Air Plan adopted by the Air District in December 2000. Upon completion, it will be submitted for review and approval to the California Air Resources Board. The state has not set a deadline to attain the California one-hour standard.

A new federal eight-hour ozone standard will take effect in June 2005. The Bay Area is currently designated "marginal non-attainment" for this new eight-hour standard. The U.S. Environmental Protection Agency has not yet established guidelines necessary to show future attainment.

### 2002 High-Occupancy-Vehicle (HOV) Lane Master Plan Update

MTC (March 2003)

The HOV Lane Master Plan Update evaluated the performance of existing HOV lanes, and made recommendations for study or implementation of new HOV lanes in various freeway corridors. The plan helps guide the HOV lane investments that are included in the Transportation 2030 Plan, and defines an HOV lane system that provides the basis for a proposed high-occupancy/toll (HOT) lane network. Proposed regional express bus services are also identified in the plan.

Caltrans' annual HOV Lane Report provides the basis for ongoing evaluation of the Bay Area's HOV lane system. In addition, Caltrans, MTC and California Highway Patrol staff regularly convene a Regional HOV Lane Committee to discuss HOV lane operational, safety and enforcement issues.

### Regional Bicycle Master Plan

MTC, February 2002 (incorporated into the Transportation 2030 Plan by reference)

MTC developed the Regional Bicycle Master Plan in conjunction with each of the nine Bay Area counties, other planning partners and advocacy groups.

The completed regional bike plan accomplishes five main goals. The plan:

- Defines a network of regionally significant bicycle routes, facilities and necessary support programs
- Identifies gaps in the networks and recommends specific improvements to fill these gaps in the system
- Develops cost estimates to build out the entire regional network
- Outlines a funding strategy to implement the regional bike network
- Identifies other programs to help local jurisdictions to become more bicycle-friendly

The plan's costs and revenues were updated during the first phase of development of the Transportation 2030 Plan.

### Regional Intelligent Transportation Systems (ITS) Architecture and Strategic Plan

MTC, October 2004 (incorporated into the Transportation 2030 Plan by reference)

The Federal Highway Administration (FHWA) requires all metropolitan regions to adopt an Intelligent Transportation Systems (ITS) Architecture by April 8, 2005, and have a mechanism to update the plan and ensure that the development of projects follows a systems engineering process. ITS refers to electronic communication systems that can be used for collecting, processing and disseminating data in real time to improve the operation, safety or convenience of the transportation system. An "architecture" is a concept from the field of systems engineering that defines the framework within which a system can be built, the functionality of the pieces of the system, and the information that is exchanged between the components of the system.

Bay Area ITS stakeholders developed the Regional ITS Architecture and Strategic Plan through a participative process that included 15 meetings over a three-year period. MTC expects to use the Regional ITS Architecture and Strategic Plan to leverage the current investment of ITS projects in the Bay Area and to ensure the orderly, cost-effective development and integration of projects in the future. As administered by MTC, the plan enables project sponsors to:

1. Access a regional ITS project Web site to ensure that their ITS project is adequately described
2. Submit a comment form on the project Web site to address proposed changes
3. Review the architecture diagrams to assess which interfaces a new project should accommodate
4. Determine whether an agreement is required for a specific information flow
5. Use the information on the project Web site to address Caltrans' Local Assistance Program requirements

### Regional Goods Movement Study for the San Francisco Bay Area

MTC, December 2004 (incorporated into the Transportation 2030 Plan by reference)

MTC and a consortium of interests, including the Port of Oakland, the Economic Development Alliance for Business (EDAB), the Bay Area Council (BAC) and others, contributed resources for a study of the goods movement industry in the Bay Area and central San Joaquin County regions. The study was divided into two phases. The first phase focused on understanding the movement of goods and the economic impact of this industry on the Bay Area economy. It addressed questions related to who is moving goods, where are the goods being sent, and how are they being moved. In the second phase, the study assessed both the economic and employment impact of the industry on the Bay Area and its subregions. The analysis focused on the interaction among the trends in the goods movement industry, local policy decisions that affect the goods movement industry and the industry's impacts on the regional economy.

The study generated key information that will help MTC allocate transportation funds for transportation infrastructure; provide local decisionmakers with economic impact information for planning economic development strategies or making infrastructure, zoning and other land-use decisions affecting this industry; and prepare a common freight platform for MTC and its partners for federal advocacy and regional planning efforts.

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